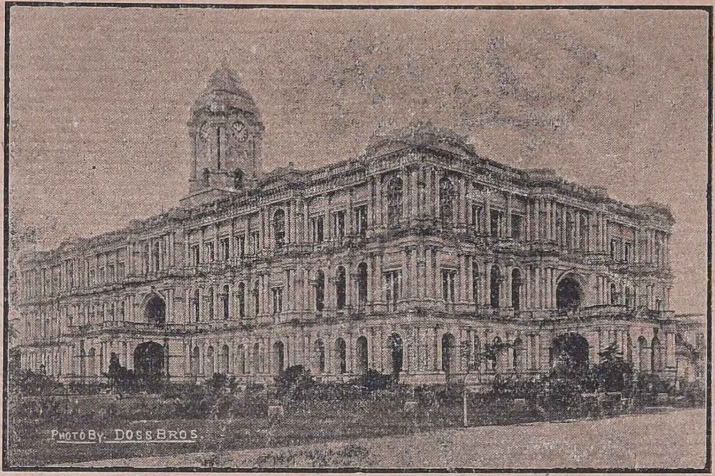
CORPORATION OF MADRAS



(RIPON BUILDINGS)

ANNUAL REPORT

OF THE

Health Officer

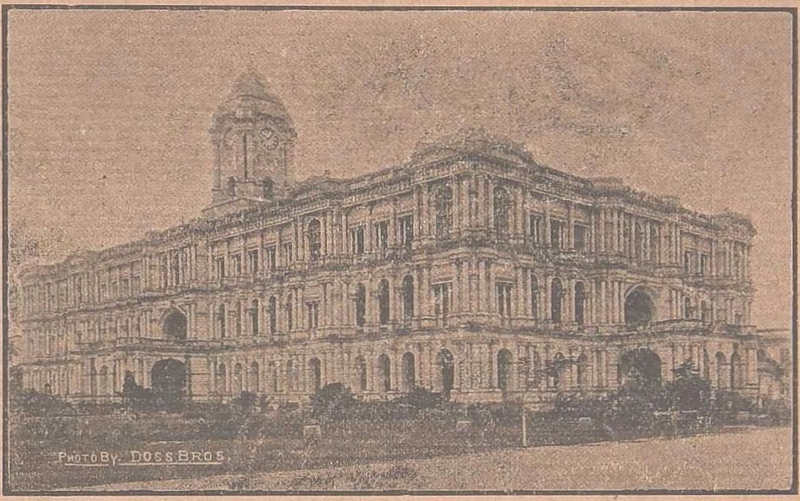
of the City of Madras

FOR THE YEAR

1918

MADRAS :
PRINTED BY THOMPSON & CO.,
33, POPHAM'S BROADWAY.

CORPORATION OF MADRAS



(RIPON BUILDINGS)

ANNUAL REPORT

OF THE

Health Officer

of the City of Madras

FOR THE YEAR

1918

MADRAS :
PRINTED BY THOMPSON & CO.,
33, POPHAM'S BROADWAY.

Reg: No. 1587/16
Copies 1000

Helio-Zinco., Survey Office, Madras.
1915

CORPORATION OF MADRAS.

HEALTH DEPARTMENT.

ANNUAL REPORT FOR 1918.

INTRODUCTION.

Never since the years 1877 and 1878, had the City of Madras suffered so severely in Public Health as during the one under review. The years 1877 and 1878 were marked by very high death rates, *viz.*, 62·8 and 99·9 *per mille*, respectively, and corresponding low birth rates of 29·8 and 36·6 *per mille*. But these were years of a great famine in the country and there was therefore nothing inexplicable in such vital statistics. The year 1918 has witnessed a death rate of 60·3 and a birth rate of 38·4 *per mille*; the infantile mortality rate went up to 355·2 *per* 1,000 births, which last is the highest since 1889 when it was 358·9. Although it has been generally accepted that there was no actual famine, it was marked by several circumstances which directly or indirectly affected the sanitary administration of the city.

I do not wish to be taken as an apologist, but shall only narrate certain prominent facts which rendered the city peculiarly unhealthy. It may be observed at this point that, not only Madras, but also several of the prominent cities in India suffered in a similar manner. This is no consolation to Madras, but it supports the fact that certain factors have affected in an equal manner all parts of the country.

	Death-rate.	*Infantile death-rate.*
Bombay ...	59·6	590·3
Calcutta ...	35·0	280·5
Rangoon ...	52 5	329 3
Allahabad ...	80·5	395.5
Lahore ...	62·7	365·9
Delhi ...	74·1	323·3

Public health in the city during 1918 is a tale of distress, disease and death—distress due to economic strain on "living" which makes people easily susceptible to disease and death, even upon very slight provocation.

The war, which has affected other countries in one way or another, made itself felt in Madras as well. In the early years of the War, there was probably a good deal of profiteering, and possibly a large number of poor people dependent upon rich employers reaped some benefit. From the middle of 1917 conditions changed materially and increased temporary prosperity counterbalanced by increased adversity—an adversity which unfortunately continues even now, although happily the War has ended. The abnormal rise in prices of foodstuffs and such other necessities of life was steadily maintained; this is attributed partly to deficient crops consequent on failure of timely rains, partly to restrictions on imports and Railway traffic. The brunt of this adversity fell on the middle and lower class of people, who, on account of un-employment, or under-payment found it very hard to make both ends meet.

During the years 1915 and 1916 the City was very healthy—in fact 1916 was its healthiest year—and there was an absence of any severe epidemics. The effects of prolonged war appeared during the latter part of 1917 and thereafter in a general rise in death-rates and fall in birth-rates. It was a striking fact that this increase in deaths was amongst the very young and very old, and was distributed equally over all parts of the City. In 1917 there was no epidemic disease. In a report submitted to the Corporation in May 1918, I mentioned that several conditions affecting our public health were largely outside the control of the Corporation, and that it looked as though the rise in mortality would be maintained during the remaining part of the year. This prophecy has unfortunately proved only too true.

The influx into the city of a large number of labourers in search of employment contributed towards over-crowding, raising the cost of living, and lowering further the already low standard of living of the Madrasee. The presence of Cholera and Small-pox in the suburbs of the City induced people to leave their homes and come into Madras. During 1917 and up to November 1918 we succeeded in averting epidemics of these diseases. But by this time the City had passed through two outbreaks of pandemic Influenza. The first out-break started early in July, reached its acme during the week ending 27th July (death-rate 63·6 *per mille*) and ended by the first week of August. The weekly death-rate fell to 38·0 *per mille* for week ending 31st August, but soon began to rise again, and in my weekly statement to the Press, dated 23rd September 1918, I made a pointed reference to the recrudescence of Influenza. This latter date marked the second outbreak of Influenza which spread very rapidly and to all parts of the City so much so that during the week ending 19th October, 2,016 persons died, equivalent to a death-rate of 202·1 *per mille*, 1,152 deaths being returned under Influenza including other fevers. When Influenza showed signs of abating, deaths from Diarrhoea and Dysentery were returned in increasing numbers. A number of Cholera cases were imported from moffussil towns and districts where the disease was prevalent. So that, in November 1918 Influenza subsided, but Cholera had taken hold of the City; and it requires little imagination to understand the effect on a population whose vitality was largely undermiend by the continued strain on living. Cholera is proverbially the most difficult disease to control. The afflicted person, even if in robust health, has little or no chance unless he is promptly put under expert medical advice. But when the patient's strength is reduced by want of food, bad food, and over-crowding, it is almost beyond the skill of man to control the disease. Simultaneously with Cholera, Plague broke out in Triplicane in an indigenous form in December 1918. Thanks to climatic conditions and thanks to the promptness and energy of the special sanitary staff, the disease did not spread to other parts of the City. But I should be failing in my duty if I did not take this opportunity to acknowledge in grateful terms the wholehearted co-operation received from the people in the afflicted area; they, though entirely uneducated and illiterate, willingly followed our instructions. It did not take much time or effort to convince people that evacuation and closure of insanitary dwellings is by far the quickest and most effective measures for the prevention and suppression of Plague in insanitary areas; others who could not move got protection by Anti-plague inoculation.

Since 3rd March 1919 no fresh cases of Plague have been reported. It is not possible to prophesy what may happen next cold weather. Past experience in other places suggests the possibility of a recrudescence of Plague under suitable environmental conditions. A certain number of rats suffering from chronic Plague (so called "carriers") may keep a mild epizootic, which, under suitable climatic conditions, may give rise to the

been sanctioned; but the requisite widening of Government House and Penitentiary Bridges probably means some years' delay before the cars actually run on this route.

However much one talks of better and easier life in suburban areas or in the out-skirts of the City, it may be taken for granted that to the poor man, city life offers certain advantages and attractions. In the suburbs food is probably dearer than in the City. There is the cost of travelling to and from work. Medical attendance is more easily available in the City than outside. The workers of Madras, tied to the City, and perhaps preferring the noise and excitement of town life, have little thought for health in the abstract. The filthy conditions of their slums have become their natural environment. So long as they can get sufficient food, they are prepared to sleep anywhere and to suffer with equanimity the ills and inconveniences attendant on slum life. Cleansing can at least ameliorate these conditions, but dirt of the roads, streets, or back-yards cannot be said to be under effective control until all rubbish and filth have been collected, stored in some suitable receptacle, and put on the way to final disposal.

Cleansing.

Our methods of cleansing are yet primitive, and almost the whole of it is done by hand labour. Most of the streets are swept twice in the day, but in a number of instances, even as the cart is leaving the street, rubbish is strewn on afresh. Would the housewife take a little more thought, and do her house-cleaning in time to admit of the rubbish being put direct into the cart? The method of filth disposal until recently has been equally primitive, a large quantity being trenched near Brick Kiln Road, to the continued nuisance of the residents of Purasawalkam and Perambore. Since 1st August 1917, a new Pail Depot has been started in Langs Garden Pumping Station, and almost all the night-soil that hitherto went to Brick Kiln Road is flushed into the sewers.

The cleansing work has been done as efficiently as circumstances would permit, and my thanks are due to Dr. Singaravelu for the energy and driving power with which his department has worked. My thanks are also due to Mr. Shannon and his Depot Superintendents for their care of the bullocks, and their maintenance of order and discipline in the several bullock depots. At the bottom of the scale, the scavenger cooly has done his bit diligently enough. He has his peculiarities; the nearest public drain, instead of the appointed cart, at times receives his load; admonishment he receives respectfully but without interest; violent blame he looks on as cheery but rather meaningless badinage. But on the whole Madras owes a good deal to him.

Infant Mortality.

Our infant mortality rate as already mentioned was 277·3 *per* 1,000 births during 1917 as against 265·1 during 1916 and 286·1 in 1915. From our statistical tables little can be learnt as to the exact cause or causes leading to such a huge sacrifice of child life. The registered causes are based on the reports of the lay public, and in a country, where medical service has scarcely reached the masses, no accurate data can be available. An infinity of causes is quoted, but little investigation into their relative importance has been done. Recognised authorities differ in their opinions. "Infant mortality is the most sensitive index we possess of social welfare and of sanitary administration, especially under urban conditions," says Dr. Newsholme. Sir George Newman, on the other hand, says, "It is now a well established truism to say that the most injurious influences affecting the physical conditions of young children arise from the habits, customs and practices of the people themselves rather than from external surroundings and conditions. The environment of the infant is its mother. Its health and physical fitness are dependant primarily upon her

health, her capacity in domesticity, and her knowledge of infant care and management." And again, "the principal operating influence is the ignorance of the mother and the remedy is the education of the mother."

There seems to be no doubt that each one of these causes operates to a certain extent, and these causes are all closely inter-related in a vicious circle, the starting point leading to excessive infant mortality not always being the same. No measure of relief can be of real or lasting benefit unless directed against all the operative causes. Some are apt to make a fetish of "maternal ignorance" as quoted above; but is there any reason to believe that rural mothers, among whose infants mortality is low, are less ignorant or better educated than their town sisters, among whose infants mortality is high? The comfortable doctrine of "maternal ignorance" embodies an aspect of truth, but it is mischievous when it implies, as is often said, that what is chiefly required is the distribution of leaflets of advice, or the giving of theoretical instructions as to matters of personal hygiene or health literature generally. Of what avail is the distribution of health literature when the great majority of those for whom it is intended cannot read?

The Corporation, as already stated, has started during the year under report an experimental scheme of 'maternity benefit and child welfare', with the object of bringing "clean midwifery" within the easy reach of every expectant woman of the poorer classes. The work is at present limited to one District in the City, but its success or failure mainly depends upon the amount of support it receives from the public. Poverty is the root cause of infant mortality, while all other causes are auxiliary to it. But the removal of poverty is not primarily within the province of the sanitarian. He has to do the best he can under the circumstances, piously praying all the while that poverty may soon be abolished from the world of mortals, or at least from that portion of the world where he has his particular field of work.

Milk.

The working class mother more often gives her infant the supremely important breast-feeding than does the mother in other stations of life; and for these latter a supply of pure milk is of supreme importance. Bottle-fed babies do not thrive so well as those that are breast-fed, for the simple reason that the milk available is filthy, stale, or half fermented. The very qualities which make milk good food for mankind tend to make it likewise a good food for microbes; and many an epidemic especially among infants, has been traced to impure milk. The problem of milk-supply continues to be unsolved. Mr. Allen Carruth has recently made an elaborate study of this question as it affects the City and the following are a few of his findings: "Milk production in the City of Madras is in a very unsatisfactory condition. There is nothing to show that the industry ever was efficient . . . . The cattle have been bred with the sole object of producing draught animals, the milk yield being of a secondary consideration. . . . . . The position of the Madras Dairyman with all his faults is seen to be an impossible one. He cannot breed the special stock required, nor do any do this for him. From this condition of things combined with the fact that there are no penalties for adulteration and the public demand a large measure for a small sum, springs the whole system of systematic adulteration and fraud . . . . .

"If milk is to be supplied unadulterated, then to make production economical (*a*) the price must be increased or (*b*) better business methods introduced, and good milking stock bred. If the price is increased, comparatively few will be able to afford it, thus this remedy may be dismissed. With better business methods and an improved

strain of dairy stock, there is every hope that pure milk can be supplied at present prices and at the same time leave a profit to the dairymen."

The following are some of his specific recommendations to attain the much-desired object of a pure milk supply :—

1. Improvement of the milking capacity of the average cow in the City.

2. Formation of co-operative societies for dairymen, with a view to obtaining supplies of cattle-food at whole-sale rates, and obtaining loans on easy terms for the purchase of cows and buffaloes and for rearing good female stock.

3. Improved housing of milch cattle with a view to greater general cleanliness and better health of the stock.

The first two recommendations are not for the Corporation to give effect to. As regards the third, something is being done, but we are much handicapped by ignorance and consequent lack of co-operation on the part of our cow-owners. Several of them needed very emphatic persuasion before they would abandon their own filthy yards and stable their cattle in the new model cattle-yard at Basin Bridge Road. There are about 200 head of cattle at present at the Basin Bridge Yard, although it can accommodate double this number.

The question of starting a Corporation Model Dairy farm is, I fear, not feasible under existing conditions. Nor is it economical for the Corporation to start milk shops in different parts of the city.

It is perhaps known that our worthy fellow citizen Rao Sahib Cunnan Chettiar has set up in Triplicane a free milk depot, where fresh and good milk is never denied to any one who asks for it in the name of an infant. This depot serves a useful purpose in its own limited sphere, but from the very nature of things, charitable institutions can but rarely touch the fringe of the problem even were such free institutions distributed all over the City. For, the bulk of our middle classes would still be left unprovided. There is an urgent need for private enterprise to supply milk guaranteed pure at reasonable prices to people who cannot afford to maintain a cow and whose daily need is limited to a quarter or half Madras measure.

Infectious Diseases.

There were 582 attacks and 195 deaths from Small-pox. An alarming number of Cholera cases occurred in rapid succession during the months of July and August last—54 attacks and 37 deaths in July and 48 attacks and 26 deaths in August ; and it looked as though the disease would break out into an epidemic. Thanks to the promptness and energy of Drs. Raman Pillay and Isaac and their staff of Sanitary Inspectors, the threatened epidemic was averted by suitable prophylactic measures, and the attacks and deaths from this cause were but 28 and 15 respectively during the remainder of the year.

In this connection a somewhat lively controversy raged around our water-supply. At times we were informed by perfervid critics that municipal water was no better than "Cholera Mixture," whatever that may mean. Bacteriological examination, however, showed the water to be free from Cholera vibrios, and as a matter of fact most of the Cholera cases that occurred were either imported, or among the contacts of imported cases.

In dealing with infectious diseases experinece has shown that, of all preventive measures, prompt isolation of the sick person in a suitable hospital is attended with most success, and is best in the interest of the patient, the contacts, and the general community.

Malaria.

Malaria was responsible for 859 deaths, a slight rise (96) over the figures for 1916; this is probably due to the earlier and more prolonged rains, already referred to. A large number of breeding grounds have been completely eradicated, while others have been kept under control by such measures as cleaning, re-cleaning, oiling, &c. The three Malaria dispensaries are doing good work and the Sub-Assistant Surgeons are required to visit certain parts, where the disease is generally prevalent, and to treat in their homes persons suffering from Malaria. Quinine is administered, not only as a curative, but also as a prophylactic. But destruction of mosquitoes, and individual prophylaxis by living in mosquito-proof houses, or by not exposing one's self to the mosquito bites, are more efficacious than mere quinine administration, although, as a valuable adjunct, the value of quinine can hardly be exaggerated. Quinine is a difficult drug to take, and in the minds of the larger public there are still doubts and suspicions as to its efficacy, and still more as to its subsequent evil effects.

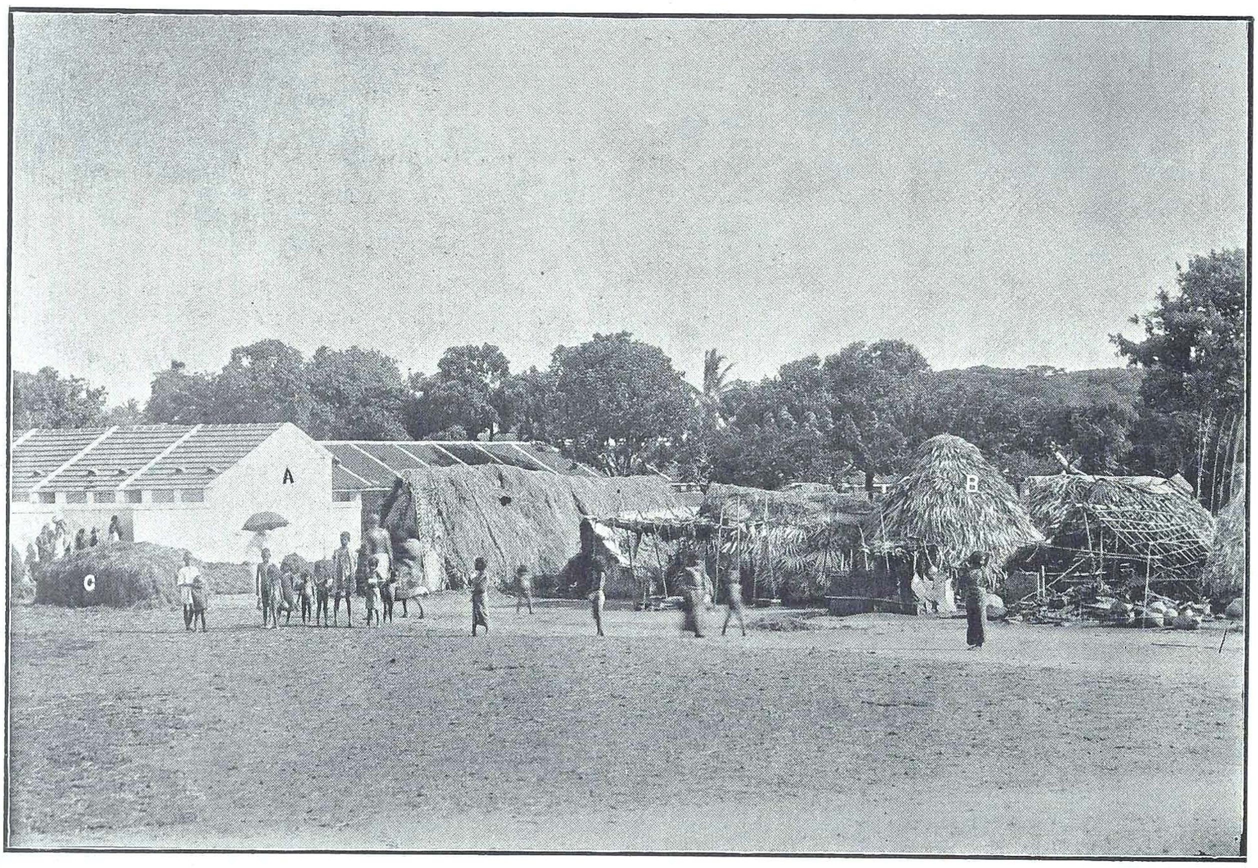
Hospitals.

The Corporation Dispensaries and the two Infectious Diseases Hospitals continue to be under the executive control of the respective District Surgeons. The proposal to construct an up-to-date Infectious Diseases Hospital is still under consideration and it is expected that within the next year or 18 months, funds permitting, building operations will have been started. Meanwhile existing hospitals, inadequate though they may be in several aspects, have been better equipped and staffed, and cases are now readily sent to them. An ambulance car has been purchased and is available for any person who wishes to send a patient suffering from an Infectious disease to one or other of the two Infectious Diseases Hospitals.

The King Edward Memorial Tuberculosis Dispensary located in Pantheon Road is attracting a large number of patients. There has been some controversy as to the advisability of the location of a Tuberculosis Hospital within the City limits. Whatever the demerits may be, to a medical man the congregation of a number of phthisical patients in a well-equipped and well-cared for Hospital appears to be attended with much less danger than letting the same number loose on the populace and allowing them to spread the infection. The question of open-air schools for tubercular children is being discussed, and I consider that for success in any campaign against Tuberculosis, the disease, especially Phthisis or other tubercular infection of lungs, should be declared as notifiable.

Prosecutions.

There were 6,369 prosecutions during the year under the various provisions of the Act as against 4,457 in 1916 and 6,402 in 1915. As has often been said, municipal prosecutions are only a means to an end; and if the end is otherwise attained, prosecutions are always withdrawn. Prosecution is a last measure for enforcing sanitary laws. But even then the redress sought for is not always attainable. Magistrates at times seem to consider such prosecutions as mere matters of municipal routine, and inflict fines and penalties incommensurate with the nature of the offence. The citizen finds it more comfortable to pay a small fine and be done with it, instead of spending large sums of money for complying with municipal demands. Municipal sins of commission are perhaps legion; still the sins of a municipality are no excuse for breaches of law and violation of sanitary precepts. To quote but a few examples; the public streets are constantly defiled by persons



A. MODEL DWELLINGS.
B. SQUATTERS HUTS.
C. REFUSE HEAP.

easing themselves and are often converted into cattle-yards and stables; milch cattle are let loose to graze upon garbage on roadsides; during early morning and late evening hours, horses and cows are found tied to lamp posts, syphon-boxes, and window bars of houses; horses and carriages are usually washed and cleaned on public thoroughfares; public drains are the favourite pitch of vegetable hawkers, and are everywhere encroached upon by sweet-meat bazaars. In the prevention of such nuisances we meet with the greatest opposition. The only satisfactory solution is in the hands of the public. They have to recognise that Municipal Laws and Regulations are intended to make for public well-being; they must work with municipal officials in enforcing such laws for the good of the community.

Conclusion.

Municipal taxation takes two forms, one of which is money and the other human life. Public health cannot be had for the asking, nor can it be obtained by a wave of the magician's wand. It closely accompanies good sanitation; and good sanitation is not cheap in money because disease and dirt are very expensive things to deal with. If the Sanitarian were able to make money for the community, he would be more popular than he is. Still, that good sanitary work pays in health and comfort, and that a healthy community is a great asset to the State, are acknowledged facts. People should judge for themselves whether they will allow their children to run avoidable risks of death, crippling disease, or defective development. The house-holder can do piece meal what no public authority has ever succeeded in doing wholesale. Laws and regulations, however ideal they may be, are apt to fail in their purpose, unless the average level of civic responsibility is sufficiently high; the right kind of officials can do little without the right kind of citizens to co-operate willingly and intelligently. The house-holder who perfects and completes the sanitation of his own premises very possibly pays more than he who throws the whole of the trouble and expense on the public authority. But he who takes trouble in this matter is often regarded as a fool by the majority, who say "he has got to pay rates; why should he bother?"

Simple ignorance, religious superstition, apathy, fatalism, pecuniary considerations, are some of the several conditions obstructing sanitary progress. The worst of them all is that arising from unconscionable self-interest. "A land-lord who owns half a street of damp and defective houses, a tanner whose wealth is represented by heaps of noisome and foul-smelling hides, and a person who considers his front verandah the proper place for keeping cows and ponies, these are not likely to be enthusiastic with regard to bye-laws and regulations framed with the direct object of interfering with their free license."

What is wrong with most of us is that we are not educated for "citizenship." By patience, tact and sympathy, we may win over the sincerely ignorant or the apathetic individual. The real obstructionist is he, who has received an education complete in many directions, but who will not allow his education to prevail upon his 'opinion.' The remedy lies in making education more practical. A man needs to learn that light and fresh air and ample accommodation for the family ensure health and make for Godliness. He should understand that his acts of commission and omission make not only for his own ill-health, but also for that of his poorer neighbour, whose well-being and social up-lift are in the end as important to him as are his own.

K. RAGHAVENDRA RAU,
Ag. Health Officer.

STATISTICS FOR 1917.

1.	Area of the City	...	27·6 sq. miles
2.	Census of 1911 :—		
	Population	...	5,18,660
	Average density	...	29·4 *per* acre.
	Density of the 7th, 8th and 9th Divisions	...	132·6 *per* acre.
	Inhabited houses	...	59,595
	Number of persons *per* house	...	8·6
3.	Total births registered in 1917,		
	excluding still births :—	...	23,296
	Still-births	...	1,077
	Illegitimate births	...	995
	Birth-rate	...	44·9
4.	Total deaths registered in 1917	...	19,917
	Death-rate	...	38·4 *per mille.*
	Infantile mortality	...	6,460
	Infantile mortality rate	...	277·3
5.	Estimated population for the middle of the year, 1917	...	5,24,481
6.	Death-rate from Infectious Diseases	...	14·0 *per mille.*
7.	Death-rate on estimated population	...	38·3

VITAL STATISTICS.

The Vital Statistics Section continued to be under the supervision of Dr. Raman Pillai and Dr. Isaac, the Assistant Health Officers in charge of South and North Ranges respectively, during the year 1917.

Table A on page 65 shows the birth and death statistics for 12 years since 1906.

Climate.

The total rain-fall recorded during the year was 51·06 inches against 46·47 in 1916 and 56·61 in 1915. Table B on page 66 shows quarterly rain-fall in the city since 1912.

Registration of Births and Deaths.

Ten Medical Registrars with 20 Conicapillays were in charge of Registration of Births and Deaths in the City.

Births.

The number of births registered during the year 1917 (exclusive of still-births) was 23,296, this being 1621 births in excess of the births during 1916. The ratio calculated on the census population of 1911 was 44·9 *per mille* against 41·8 in 1916 and 35·3 in 1915. The birth-rate calculated on the population estimated in the middle of the year 1917 was 44·4.

Birth-rate by Races.

Table C on page 66 shows birth-rate by races and Table D on page 66 that amongst the principal Sub-divisions in the Hindu Community for three years. The Muhammadan community shows the highest birth-rate of 50·8, the European community, the lowest. The Hindus show a slight increase, while the Indian Christians remain the same.

Births by Months.

The monthly incidence of births is shown in Table E on page 67 for the three years, 1915, 16 and 17. The largest number of births was recorded as usual in September and next in August.

Births by sex.

Out of 23,296 births, the number of males was 11,914 and females, 11,382.

Illegitimate Births.

995 Illegitimate births were registered during the year against 1039 in 1916 and 951 in 1915.

Still-Births.

There were 1,077 still-births during 1917 against 975 in 1916 and 650 in 1915.

Deaths in 1917.

Total Mortality.

The number of deaths registered in the year exclusive of still-births was 19,917 against 17,872 in the previous year. The average of the previous five years was 20,308. The ratio of the deaths calculated on the Census Population of 1911 was 38·4 *per mille*, against 34·5 in the previous year, and 36·0 in 1915; and the mean ratio for the previous five years was 39·2. The death-rate calculated on the estimated population was 38·3. Tables F. G. H. on pages 68 and 69 are comparative statements of deaths during the years, 1915, 1916 and 1917, by months and by races in the city and also among the principal sections of the Hindu community.

Sex. The deaths among males numbered 10,005 and among females 9,912, the proportion being 100·9 males to every 100 females.

Class. The number of deaths registered among Europeans was 58, Anglo-Indians 240, Indian Christians 836, Hindus 16,202, Muhammadans 2,573 and others 8, the ratios being 13·9, 23·2, 30·6, 39·0, 43·5, 4·5 respectively.

Age. Mortality among infants under one year of age was as usual the heaviest, *viz.*, 6,460 deaths; next come 3,525 deaths among adults of 60 years and upwards. Next comes age group one to five years with 2,945 deaths, so that out of 19,917 deaths, as many as 9,405 or 47·2 *per cent.* occur amongst children under one year and between the ages one and five. There is a sudden drop thereafter in the age periods, 5 & 10, 10 & 15, 15 & 20 years. Then again the mortality rises until the maximum is reached in the age period 60 and upwards.

Infantile Mortality.

By Municipal Divisions. From Table I on page 69 it is seen that the highest death-rate of 361·8 is recorded in the 4th Division and the 6th Division stands next. The lowest rate was returned for the 13th Division.

By Months. From Table J. on page 70 it will be seen that as many as 2,874 or 44·5 *per cent.*. of the total number of infants died before they attained the age of one month. Of these 2,874 deaths, as many as 1,390 or 48·4 *per cent.* were cases of premature birth and debility, *i.e.*, 21·5 *per cent.* of the infants under one year died from this cause before they attained the age of one month.

Child-Welfare work. Four qualified midwives were engaged from 16th September 1917 and were posted, one to Chintadripet, 16th Division, two to Triplicane, *viz.*, 17th and 18th Divisions and one to Royapettah, 19th Division. Applications for the post of Superintendent were invited from Lady Medical Graduates but the one candidate who applied withdrew her application, so that till the close of the year under review the work of the midwives was supervised by the Health Officer. From the beginning of the current year the Corporation have secured, the services of Miss L. N. Veerasingh, M.B., & B.S., who is at present in direct charge of the work.

The extent of work done by these four midwives detailed below is up to close of the year 1917, *i. e.*, for a period of 3½ months. The total number of labour cases attended to by them is 233 and they are distributed as follows :—

16th Division	... 43.	18th Division	... 76.
17th ,,	... 37.	19th ,,	.. 77.

This total works out to 3· 6 *per cent.* of the total number of births registered for these divisions.

The midwives are required to visit each woman, whose delivery they conduct, for the first ten days of the puerperium, and to assist in procuring such aid as required whether private medical aid or help at a Hospital or Dispensary. They are required to keep a register of labour-cases conducted by them, also showing whether labour was

normal or abnormal, the condition of infant and mother during the days of their attendance, and in case of death of either mother or infant or both, the probable cause or causes.

Of 233 cases, there were eight still-births and one abortion ; that is, there was 1 still-birth to every 28 live-births : *cf.*, 1,077 still births to total 23,296 live-births registered *i.e.*, 1 to 22. But inasmuch as many cases of abortion and premature delivery, are not brought to our notice, no useful comparison can be made. Thirteen infants died within first ten days of puerperium. There was not a single instance of maternal mortality, or other complications as puerperal fever, etc., an important indication of clean midwifery. There were eight cases of difficult or protracted labour, of which, five required urgent medical aid, and were sent to Hospital, and the rest were delivered at home.

The most common causes for delayed labour were Anæmia and Debility, possibly due to want of good nourishment during the period of gestation and the necessity to work up to the last moment the labour set in.

There were only 17 cases of malpresentations.

Difficulties.

The service, although intended for women of the poorer classes, is often requisitioned by better class people, especially as it is rendered gratis. But we are not anxious to prohibit this for some time ; at least, until the service becomes popular and our midwives endear themselves to the womenfolk. The midwives have had some difficulties in getting over popular prejudices. For instance, the midwife who will not give a douche even in a normal case after delivery is considered ignorant of the art. Barber midwives are still predominant and even where the qualified woman attends, the barber woman will have the precedence, and possibly mismanage the case. Recently, a more central house has been engaged in Triplicane High Road, and four additional midwives employed. Some difficulty is experienced in getting the right sort of widwife. On the whole, the start has been good and steady progress may be hoped for. But those who expect marvellous results after a few years of work will be disappointed, for even in countries where regular maternity and infant homes, milk and food depots, and infant clinics, etc., are established, the results obtained are far incommensurate with the monies spent, and little can be expected in a place where, with our present methods, scarcely the fringe of the problem is touched.

Causes of Mortality.

Infectious Diseases, Malaria.

Malaria caused 4·3 *per cent.* of total deaths as against the same rate for 1916 and against 9·0 in 1915 or expressed in the ratio *per mille* 1·7, 1·5 and 3·3 respectively. Annual form X shows that 859 persons died of this cause against 763 in 1916. A detailed report of the Anti-Malarial operations is found on page 27.

Enteric Fever.

47 deaths occured from Enteric fever during the year giving a ratio of 0·09 *per mille* against ·09 in 1916 and 0·1 in 1915. The mean ratio for the previous five years is 0·1. The number of deaths from this disease returned for 12 years is given in table below :—

1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.
49	42	36	41	42	52	42	51	66	75	49	47

23 deaths were registered as due to Kala-Azar. The corresponding numbers for 1915 and 1916 were 18 and 39 respectively. These figures do not give any accurate idea as to the prevalence of this very fatal illness.

Kala-Azar.

Cholera.

130 cases were reported during the year. Of these 78 or 60·0 per cent. proved fatal, against 48 attacks and 30 deaths or 62·5 *per cent.* in the previous year, the ratio being 0·2 *per mille* as against 0·1 *per mille* in 1916. The mean ratio for the quinquennium is 0·9. Of these cases 28 were imported from surrounding places and 102 were indigenous. Of these 130 cases, 71 were sent to Infectious Diseases Hospitals. All the infected houses were disinfected, and the water of the well, if there was one, was hankanised.

Small-Pox.

The number of attacks during the year was 582, of which 195, or 33·5 *per cent.* proved fatal. The death-rate was 0·4 *per mille* against 0·9 for 1916 in which year there were 1,489 attacks and 476 deaths or 32·0 *per cent.* The mean ratio for the previous five years was 0·2.

Small-pox was sporadic throughout the year. Out of 582 cases 310 were willingly sent to Hospital.

Measles.

There were 79 deaths during the year. The mortality rate is 0·4 *per cent.* of the total deaths. During 1916 there were 282 deaths. The mortality ratio *per mille* of population was 0·2 in 1917 the average for the quinquennium being 0·3.

Plague.

There were 8 cases of Plague during the year, of which one was indigenous and the other 7 imported cases. Of these, 6 proved fatal. The history of the one indigenous case is, that an Anglo-Indian Nurse, who attended on an imported case of Pneumonic Plague, got the infection and succumbed to the disease.

Tuberculosis including Tubercle of the Lung.

1,067 deaths were returned under this head, an increase of 191 deaths over the previous year. The ratio is 2· 1 *per mille.*

Leprosy.

136 persons died from this disease.

Diarrhoea and Dysentery.

4,131 deaths were registered from these causes. This represents a death-rate of 7·9 *per* 1,000 of population, against 7·1 and 8·1 *per mille* in 1916 and 1915 respectively. The largest number of deaths were recorded in July and next in February and March. The mean ratio for the previous five years was 9·1 It is equal to 20·7 *per cent.* of the total mortality, as against 20·5 *per cent.* in 1916 and 22·5 in 1915.

General Respiratory Diseases excluding tubercle of the lung.

3,293 deaths were due to Respiratory Diseases or 442 deaths more than the previous year. The ratio is 6·4 *per mille* against 5·5 in 1916 and 4·4 in 1915. The largest number of deaths from Respiratory Diseases was in July and October.

Diseases of the Nervous System.

Of the 2,866 registered under this heading 1,698 were those of the childern uuder one year of age who were reported to have died of "convulsions."

Certified deaths.

The number of deaths certified by qualified medical men was 1,214 or 6·1 per cent. of the total number of deaths in the City. Of these 73 or 0·4 per cent. were certified by private medical practitioners and 1,141 or 5·7 per cent. by public Hospitals.

Extracts of Birth and Death Registers.

220 applications were received during the year for extracts of entries from the birth-registers and 258 from death-registers. Out of these, the number of birth extracts granted was 173 and of death extracts, 235. In 80 cases, extracts were not granted as the parties failed to pay the fees. In 43 cases entries could not be found, and the parties were accordingly so informed. The fees collected during the year for such extracts amounted to Rs. 621.

Burial and Burning grounds.

The number of Corporation burial and burning grounds remained the same as in the previous year. and continued to be in charge of the Sanitary Inspectors in their respective Divisions.

During the year, 15,568 bodies were buried and 4,349 were burnt.

Lands for the erection of tombs were sold to 69 applicants during 1917.

Infectious Diseases Hospitals.

There are two Infectious Diseases Hospitals in the City of Madras maintained by the Corporation, one at Krishnampet and the other at Old Jail Road, Royapuram, under the supervision of the Surgeons of the IV and I Districts, respectively.

Accommodation.

These Hospitals consist of several blocks, providing 72 beds. In addition to these there are six temporary sheds in the Krishnampet Hospital put up for Plague and Cholera patients. Separate wards have been provided for different diseases, and so far as possible, also for different races.

Staff.

There is a Sub-Assistant Surgeon in immediate charge of each of the Hospitals with the required number of Nurses, Ward Boys and Menials. The District Surgeons have discretion, subject to the President's approval, to engage such extra staff as they may find necessary.

Patients treated.

The number of cases treated during the year in both the Hospitals is 882 against 807 in the previous year, as shown below:—

Diseases.	No. admitted.			Total deaths.	Rate of mortality 1917.	Rate of mortality 1916.
	Krishnampet.	Royapuram.	Total.			
Small-pox	116	194	310	30	9·7	12·2
Measles	5	28	33	...	...	...
Chicken-pox ...	53	62	115	...	...	...
Cholera	48	23	71	29	48·5	44·4
Contacts	207	107	314	...	...	...
Plague	8	...	8	7	87·5	75·0
Other diseases ...	7	24	31	8	25·8	7·7
Total ...	444	438	882	74	8·4	9·3

Income and Expenditure.

Special Funds.

The Superintendent of Royapuram Infectious Diseases Hospital reports that in some cases patients when leaving the hospital pay of their own free will what they can, and the amount so realised during the year was Rs. 14-13-6 against Rs. 12-5-0 during the previous year.

The total expenditure on the two hospitals during the year was Rs. 16,818-5-5 against Rs. 29,259-5-0 during the previous year. The expenditure of 1916 included Rs. 13,601-8-4 spent on repairs.

SANITATION—GENERAL.

Twenty Sanitary Inspectors, one for each Division, were working during the year under review. In a large number of cases sanitary defects within a dwelling house, cattle-yard, stable, etc., which are simple in their nature, are remedied by personal talks and appeals. The list given on page 78 shows the actual number of cases taken cognisance of by this Department, and which necessitated the due observance of notification, prosecution, etc.

Drainage.

Although the City drainage operations are steadily progressing, there remain in some parts of the City, even in sewered areas, several huts and houses, the sewage from which is let into cess-pools or on to the streets. In some instances the situation of the huts is such as to make drainage arrangements impossible ; while in others the people are slow to recognise that it is not healthy to allow stagnation of sewage about their habitations.

The City seems to be developing towards the west, and over sites which have been vacant for years, numerous bunglows are springing up. It is regrettable to note that in almost every case, no thought has been bestowed on the disposal of sewage which stagnates within the compound, in the road-side ditch, or into the next neighbour's compound. It is no wonder that people living in such houses complain of nuisance from mosquitoes, for, Culex mosquitoes are invariably found breeding in such stagnant pools.

Housing and Relief of Congestion.

Sixteen tenements for scavengers were constructed in Pudupet near Harris Road Depot. Suparigunta Paracheri was opened up ; and in accordance with the proposals sanctioned in Proceedings No. 18 of the Corporation meeting, dated 15th January 1918 and with a view to provide house sites for willing people at close quarters, the Corporation have decided to acquire a strip of land to the south of the paracheri, between it and Pycrofts Road.

Flush-out Latrines.

Of three flush-out latrines proposed, only one was constructed in Audiappa Mudaly Street. That a much larger number of public latrines and urinals are needed for public convenience is undoubtedly true ; but the Corporation may have also to consider whether the latrines and urinals will in any way materially decrease the number of nuisance cases. The urinal at the junction of Wall Tax Road and General Hospital Road has not proved useful, and the existing flush-out latrines have often been misused by people squatting at any place other than the spot specially provided for. Enquiry shows that there were once public urinals in this City, which from a sanitary point of view, were not a success. Many of these were converted into latrines in spite of the fact that there were public latrines, and had therefore to be done away with.

In the majority of cases it is the residents who misuse the public streets. One can see almost at any time of the day children led out of their houses to misuse the public street and public gutters, notwithstanding the existence of suitable lavatory accommodation within the house.

Cattle-yards.

The model cattle-yard in the Basin Road was opened to the public in January 1917. No fee is charged for the animals housed, but a nominal fee of annas eight *per mensem* is charged for each store-room that is used by the cattle-owner. 220 milch cattle (including cows and she-buffalows) were admitted during the year. Eleven head of cattle were taken away or sold, leaving 209 at the close of the calendar year.

The existing sheds can accommodate more than twice this number ; but it is impossible to force all people to move their cattle from existing unwholesome yards. The Municipal yard is at one end of George Town, and is far removed from where some of the milk-men live ; the trade is such as to necessitate one or more persons to be present constantly to look after the cattle. There were 634 licensed private cattle-yards, most of which were sufficiently dirty. No law can of itself undo the ever-occurring nuisance from the accumulation of dung and urine. The dung is mostly made into bratties which are allowed to dry upon the walls of the yard or the house.

Stables.

There were 227 licensed stables and 834 private ones requiring no license. Of these, 1,003 were noticed under the existing bye-laws and 641 were put into proper order. The work has been somewhat slow due partly to inadequate powers under the Act and partly to heavy cost of building materials. Under the existing laws, the owner, if he persists in not repairing a stable, does not become liable to prosecution but the tenant does.

Cart-Stands.

The Elephant Gate Cart-Stand is the only one managed departmentally. The right of collection of rents and fees therefrom was sold in auction for Rs. 8,000 for the official year 1917-18 as against Rs. 5,175 for 1916-17. Repairs to this cart-stand were under contemplation at the end of the official year 1917-18. They are being carried out now. There are 22 private cart-stands, and if properly maintained they yield a decent return in the form of rent. The essentials for a cart-stand are, firstly, a decently floored and drained shed for stabling draught animals, secondly, a place for cart-men to prepare their food and eat during their temporary sojourn, thirdly, sufficient water-supply, fourthly, suitable lavatory accommodation, and fifthly, a spacious gravelled open space for allowing carts to stand. Except for one stand at Triplicane, most cart-stands fall far short of our expectations. In particular, no arrangements are available to sweep and remove out of the premises, refuse, straw, dung, etc.

Dye-Pots and Paddy Boiling Houses.

There are 55 licensed yards of the former and 774 of the latter. The business, at present restricted to certain parts of Madras *viz.*, Tondiarpet, Perambur and Purasawalkam, would be best removed to non-populous areas, or situated at safe distances from human habitations. But our attempts towards this end meet with a strong opposition. Most of the work requires an extensive open space. The owner has to maintain sufficient watch lest his wares be stolen ; and thus he prefers to live at the work spot itself. Each work spot consists of two rows of single tenement rooms with a large well-paved open court-yard in between. The labourers work and live in the same premises. Notwithstanding the care and supervision devoted to proper working, it is inevitable that the atmosphere is fouled and facilities afforded for mosquito life.

The remedy lies in organising these industries on co-operative lines, acquiring sufficient land for carrying on their work and providing small sanitary dwellings at safe

but easily accessible distances. Of recent date, a few rice mills worked by oil engines have been installed in Tondiarpet to replace manual labour for husking rice.

Brick-Kilns and Lime-Kilns.

Kilns for burning bricks or lime are prohibited within municipal limits. It is often contended that this prohibition is unjust in view of the fact that the Corporation have been unable to prevent the same nuisance at the Government Brick Fields in Poonamallee High Road.

Aerated water factories.

There are 21 aerated water factories in this City most of which turn out very bad waters. Except in the case of three or four high class manufacturers, who cater to the needs of European Clubs and Refreshment rooms, the aerated waters manufactured in the City, chiefly by petty firms, are more often than not, unfit for consumption, from a chemical and bacteriological point of view. Endless difficulties are experienced in enforcing the bye-laws relating to the working of these factories. Almost every small factory has a sand filter and a Berkfield filter, but neither is maintained in a sanitary manner. The small manufacturers generally do not possess any technical knowledge of filtration of water, nor do they seek the assistance of the expert. They simply carry on their trade in a mechanical way, and pay no attention either to the filters or to the final products which they offer for sale. Samples, it is true, may be taken under the conditions of the license, and sent to the King Institute, Guindy. The fee for each analysis is Rs. 32. This fee is very heavy from the point of view of the small factory owner who should get at least four certificates of purity of water samples during the calendar year, and who must, if the analyst's opinion is unfavourable, send further samples until a certificate of purity is obtained. The Corporation cannot meet these heavy recurring charges. The Director of the King Institute was asked whether the fee can be reduced to Rs. 10 *per* sample in the interests of public health, and in consideration of the fact that the Corporation would be satisfied with an opinion as to whether the final product intended for sale was free from dangerous pathogenic organisms, and from other gross pollution, rendering it unfit for consumption. He replied that the fee could not be reduced to less than Rs. 20 for each sample, provided that at least four samples were sent from every licensed factory.

Thus our difficulties remain unsolved and we have found no practical means of making the manufacturer realise the dangers to public health associated with his carelessness. But before arriving at any further decision in the matter, it has been thought advisable to obtain information regarding this subject from the Health Officers of other Presidency Towns.

We were however able to obtain convictions in two cases. In one case, where a bottle of aerated water contained a cockroach, the manufacturer was fined Rs. 10, and in another, the manufacturer was fined Rs. 25 for selling impure soda water.

Bakeries and Sweetmeat Bazaars.

Bye-laws governing bakeries and sweetmeat bazaars are under contemplation. There were 50 bake-houses and 183 sweet-meat bazaars. In accordance with the resolution of the Standing Committee that conditional licenses should not be given to bakeries, all improvements must be effected before license is granted.

Dhobikhana.

The extensions to Chetput Dhobikhana are in progress, and the construction of a new one at Robinson Park has been commenced. New bye-laws for the working and maintenance of the Dhobikhana were passed and brought into force during the year.

Dhobies are scattered all over the City. The majority may go to Saidapet to wash the clothes in the Adyar River, but the few that remain in the City wash at any water-source which is handy ; and almost all of them take in soiled linen, even linen contaminated by Infectious disease, and store it in their houses before taking it out for washing. This is not a satisfactory state of affairs.

Slaughterhouses.

The number of sheep and goat slaughtered during the year was 3,66,198, the number of cattle 17,541, and the number of pigs 2,374. The motor meat vans for carrying meat from the slaughterhouses to the different parts of the City continued to work during the year. The collections from the meat vans was Rs. 4,783-10-0, and the expenditure on this account—Rs. 5,449-4-0.

The right of collecting rents and fees for the use of the Corporation Slaughter-houses is leased out annually, and the total receipts under all heads, including that for delivery of carcases, amounted to Rs. 86,951-13-4 for the official year. During the year, permission was granted for the slaughtering of sheep, goats and pigs in private houses, on occasions of religious ceremonies and festivals, and the number so slaughtered were sheep or goats 1,789, Pigs 5 and cows 5.

Sanitary Inspectors are required to satisfy themselves and make a report that these applications are *bona-fide.* Still, some cases have been recently discovered where carcasses of sheep slaughtered outside the municipal limits have been brought into the City for sale ; and people who obtain sanction for slaughtering sheep, ostensibly on religious grounds, occasionally sell the meat. All animal food exposed for sale must bear the Corporation seal, specially made for stamping carcases before leaving the slaughter-houses ; but the Act gives us no power to seize or otherwise deal with those that are not so stamped, except they be unwholesome. The section of the Act governing President's discretion to permit slaughtering of animals is totally ineffective in this respect.

Markets (Public and Private).

The Corporation maintains two markets, the Moore and the Smithfield markets. The right of collecting fees from the latter was leased for the year 1917-18 for Rs. 3,300, while the former is managed departmentally, the Revenue Department being responsible for collecting rents. The markets have been repaired during the year and are maintained in good order.

There are 42 private markets within the City. Nine market-owners were prosecuted and convicted for not abiding by the conditions laid down in the licenses granted, and others were warned several times. The Kotwal Bazaar market was largely improved during the year.

Markets in Madras pay a very good return on money invested in them. More are needed ; especially at the junction of Rasappa Chetty Street and Mint Street, a vegetable market is needed to prevent people from exposing for sale vegetables and grains over drains and on the pials of houses.

Food and Drugs.

No effective check can be exercised on the sale of impure and unwholesome articles of food and drugs until the proposed Special Act is brought into force, and until standards are worked out and fixed for the City.

It has been found impossible to establish a Chemical Laboratory under present circumstances. The Director of Guindy Institute who was consulted agrees with this view.

CONSERVANCY.

(By Dr. C. SINGARAVELU MUDALIAR,

1st *Assistant Health Officer.*)

The Conservancy of the City continued to be under my direct control. The immediate supervision of the conservancy of each of the 20 divisions was under an Overseer aided by 3 to 7 peons according to the requirements and extent of the division. There are 20 Conservancy Overseers and 99 Conservancy Peons. Overseers and Peons have, on the whole, worked well throughout the year.

Cleansing Staff.

There are 1,951 men, 113 women and 109 boys engaged in cleansing the City. Most of them have done their daily task without any demur or discontent.

Bullock and Cart Depots.

There are now seven conservancy cart-depots, each in charge of a Superintendent. These Superintendents continued to be under the control of the Chief Superintendent, who is responsible to the Health Officer for the proper conduct of the depots.

Cooly Lines.

In addition to the already existing drivers' and scavengers' quarters in the North Range, during the year, new lines were constructed adjoining Harris Road Bullock Depot in the South Range. These at present accommodate some of the drivers of that depot, and are becoming popular. Want of funds prevent more of such dwellings, although the need for them exists.

Supervision over carts and drivers.

Careful supervision was maintained over the drivers and working of carts throughout the year with satisfactory results.

Maintenance of Labour.

The amount spent on labour employed for conserving streets and public latrines was Rs. 56,525-14-8 against Rs. 53,770-9-6 in the previous year.

Conservancy Bullocks.

The number of bullocks on hand on 1st January 1917 was 1,301 against 1,358 in the previous year. 307 bullocks were purchased during the year making up a total of 1,608 bullocks. Of these 156 bullocks died of natural causes, 43 from infectious diseases and 179 were condemned and sold and one was transferred to Works Department, leaving a balance of 1,229 on 31st December 1917.

Health of Bullocks.

The health and condition of the cattle were good with the exception of those in A, G, and E Depots.

Foot and Mouth Disease made its appearance in December 1917 in A, B, C and H Depots. There were 90 cases of which one proved fatal. All sanitary precautions were taken to prevent the spread of the disease.

Surra : There were 14 cases of this disease, of which G Depot had six. As this loathsome disease had got a grip on G Depot, all the bullocks were removed out of the depot, and a camp was formed near the Mylapore Burial Ground ; the depot was thoroughly disinfected, all old materials, and feeding baskets were burned. The stalls

were white-washed and the bullocks were brought back to the dépot after having been in camp for a fortnight.

Anthrax appeared in A, B, C, H, E and F Depots. The only depot in which the disease appeared in an epidemic form was E. During the month of May 1917 there were 10 attacks, and all proved fatal. The depot was evacuated and the bullocks were inoculated and camped at Langs Garden for 18 days. A thorough disinfection, white-washing and cleaning of the depot were carried out. All fodder and feeding utensils were destroyed by fire. Since the return of the bullocks to the depot no further cases have occurred.

Rinderpest broke out in A, B, D and G Depots. In A and B during the months of August and September 1917, there were ten attacks of which eight proved fatal. The disease appeared among the bullocks working in the 7th Division. All bullocks attacked were isolated at H Depot Contagious Disease Camp, where they were treated. All sanitary precautions were adopted with success.

Improvements.

1. An increase in the scale of rations was recommended by the Principal, Veterinary College, and the bullocks were put on the new scale from 1st October 1917.

2. Owing to the introduction of a model cattleyard for milch cows and buffaloes, the old B Depot was abolished, and the conservancy bullocks housed there were transferred to A Depot. Owing to the increased number of bullocks and carts, two Superintendents are now in charge. The road leading through this depot was reformed, and all low-lying places filled up so as to prevent stagnation of surface drainage. New outside standings are being made up in several depots, and young trees planted to afford shade and protection for the cattle.

3. In G Depot iron mangers were put in, straw and gram sheds were constructed, and the steel pale fencing has been extended on the Buckingham Canal side.

4. In H Depot for purposes of free ventilation the masonry boundary wall was replaced by steel pale fencing.

Conservancy Carts.

During the year 70 single draught rubbish carts and 35 single draught night-soil carts were added. These single bullock carts have continued to contribute to economy, and are handy and useful.

Credit is due to Mr. Shannon and his staff for the proper maintenance and up-keep of the bullocks and cart-depots under their charge.

Removal of Rubbish.

The number of cart-loads of rubbish removed during the year was 309,584, against 292,527 in the previous year. All sorts of rubbish were collected and removed. One big motor lorry and two small ford vans were purchased during the year, making in all three lorries and five ford vans for conservancy work alone. The advantages derived from these motor vehicles and details of the cost of their maintenance need not be recapitulated, as sufficient particulars were furnished in last year's report. The great bulk of the rubbish collected was utilised for reclamation purposes by the Malaria Department. The total quantity of mixed rubbish received and burnt at the large and small incinerators amounted to 99,647 cart-loads, against 195,981 during the previous year. With this ash and screened earth, 413,015 c. ft. of land was reclaimed. 516 cart-loads were sold to private

parties for purposes other than reclamation, while free permits were issued for the removal when required purely for reclamation purposes.

Disposal of Filth.

In addition to the already existing Night-soil Flush-out Depot at Ice House Road, a Pail Depot was constructed and worked during the year under review, at Lang's Garden. Both depots turned out satisfactory work and have mitigated to a great extent the inevitable nuisance caused by trenching filth at Mylapore and Otary. The amount realised by the sale of manure from trenching grounds during the year 1917-18 is Rs. 23,578-4-9 against Rs. 17,848-1-0 in the previous year.

Removal and disposal of Silt, Side-scrapings, etc.

87,725 cart-loads of silt, side-scrapings and sewage were removed during the year. Silt and side-scrapings so removed were used for covering rubbish at dumping grounds, or for reclamation of tanks, etc.

Disinfection.

249 gallons of Sanitas Okol, 5,590 gallons of Hydro-carbon, 8 casks of Carbolic powder and 8,632 parahs of Chunam, 31 Gallons of Cyllin have been used for disinfection purposes. These have been useful in securing better general sanitation, and have mitigated considerable nuisance from flies, mosquitoes, etc.

Scavenging of Public Latrines.

Under section 294 (*b*) and 295 of the Act, the Corporation undertook conservancy for certain private bodies and the amount realised thereby was Rs. 9,357-1-7 against Rs. 8,308-12-4 in the previous year.

Cleansing of Public Thoroughfares.

42 boys who continued to work during the year for cleansing and keeping clean the public thoroughfares have done their work well.

Public Latrines.

During the year, one latrine was newly constructed and 11 sanded latrines were converted into flush-out ones, and whole-time totties were employed to keep them in proper order. Sand was renewed in many of the sanded latrines.

Private Scavenging.

Except in a few cases, the Corporation undertook no private scavenging in the City. As has been urged in previous reports, the Corporation should either undertake the private scavenging of the City, or should frame a bye-law for licensing the work of scavengers, so that speedy and regular removal of filth may add to the sanitary convenience of the rate-payers and the City in general.

Prosecution.

The number of prosecutions for indiscriminate throwing of rubbish in the streets and washing of night-soil into public drains was 355 against 382 in the previous year.

VACCINATION.

The City is divided into ten vaccination districts, each under a qualified Sub-Assistant. Surgeon called the *Medical Vaccinator.* Throughout the year under review there were two female vaccinators working in the City and many children behind the Purda in Mohammadan and Ghosha quarters were traced out and vaccinated by them.

Vaccine lymph for the operation is obtained from King Institute of Preventive Medicine, Guindy.

Total cases for the year.

The total number of vaccinations performed in the City during the year 1917 was 38,061 (22,765 males and 15,296 females) against 65,832 of the previous year. Of this, 23,565 cases were primary and 14,496 were re-vaccinations against 19,712 and 46,120 respectively in 1916. The number of re-vaccination cases has perceptibly decreased, consequent on the absence of an epidemic of small-pox ; while primary vaccinations have shown a rise and this, in fact, is the real index of vaccination work.

Of the total operations performed in the City 36,775 were vaccinated by the Corporation staff, 868 reported by the Medical Officer in charge of the Penitentiary, and 418 performed at the Government Fiji Emigration Depot. Of the 36,775 cases vaccinated by the Corporation staff, 23,550 were primary vaccinations and 13,225 re-vaccinations. Of the former 20,267 were performed at the depot and 3,283 outside; and of these latter again, 118 were domiciliary vaccinations performed on payment of fees, the remaining being cases performed in infected localities and in slum quarters such as paracherries, hutting grounds, etc.

Percentage of success.

The Assistant Health Officers and medical vaccinators verified the results of vaccinations performed by them in 22,679 primary cases, of which 16,549 were brought to the depots as required by the bye-law. Of the 22,679 primary cases verified, 22,303 were successful, and 376 unsuccessful, the percentage of success being 98·34 against 96·88 during 1916. The Assistant Health Officers verified 14,950 cases.

The percentage of successes in primary and re-vaccinations of all cases verified, including those reported by the Government Penitentiary and Fiji Emigration Depot is 98·27 and 54·49, respectively as against 96·87 and 65·52 in 1916.

Vaccination of Children Under one year of age.

Of the total number of primary vaccinations (23,565), 20,732 were among children under one year of age against 16,053 in the previous year. The percentage of success in the cases verified was 98·25 against 97·04 in the preceding year. Of 20,732 children vaccinated under one year of age 13,307 or 64·19 *per cent.* were born in Madras and 7,422 in Moffussil, the remaining, *viz.,* 3 being cases vaccinated at the Government Emigration Depot. The number of children under one year vaccinated was 39·97 *per mille* of population compared with 30·95 in 1916 and the number of them successfully vaccinated *per mille* was 37·98 against 28·72 in 1916.

CORPORATION OF MADRAS.

HEALTH DEPARTMENT.

ANNUAL REPORT FOR 1918.

INTRODUCTION.

Never since the years 1877 and 1878, had the City of Madras suffered so severely in Public Health as during the one under review. The years 1877 and 1878 were marked by very high death rates, *viz.*, 62·8 and 99·9 *per mille*, respectively, and corresponding low birth rates of 29·8 and 36·6 *per mille*. But these were years of a great famine in the country and there was therefore nothing inexplicable in such vital statistics. The year 1918 has witnessed a death rate of 60·3 and a birth rate of 38·4 *per mille*; the infantile mortality rate went up to 355·2 *per* 1,000 births, which last is the highest since 1889 when it was 358·9. Although it has been generally accepted that there was no actual famine, it was marked by several circumstances which directly or indirectly affected the sanitary administration of the city.

I do not wish to be taken as an apologist, but shall only narrate certain prominent facts which rendered the city peculiarly unhealthy. It may be observed at this point that, not only Madras, but also several of the prominent cities in India suffered in a similar manner. This is no consolation to Madras, but it supports the fact that certain factors have affected in an equal manner all parts of the country.

	Death-rate.	*Infantile death-rate.*
Bombay ...	59·6	590·3
Calcutta ...	35·0	280·5
Rangoon ...	52·5	329·3
Allahabad ...	80·5	395·5
Lahore ...	62·7	365·9
Delhi ...	74·1	323·3

Public health in the city during 1918 is a tale of distress, disease and death—distress due to economic strain on "living" which makes people easily susceptible to disease and death, even upon very slight provocation.

The war, which has affected other countries in one way or another, made itself felt in Madras as well. In the early years of the War, there was probably a good deal of profiteering, and possibly a large number of poor people dependent upon rich employers reaped some benefit. From the middle of 1917 conditions changed materially and increased temporary prosperity counterbalanced by increased adversity—an adversity which unfortunately continues even now, although happily the War has ended. The abnormal rise in prices of foodstuffs and such other necessities of life was steadily maintained; this is attributed partly to deficient crops consequent on failure of timely rains, partly to restrictions on imports and Railway traffic. The brunt of this adversity fell on the middle and lower class of people, who, on account of un-employment, or under-payment found it very hard to make both ends meet.

case was accurately reported after a careful and personal observation. Of the 511 cases, the reports of 311 cases were received from the two Corporation Infectious Diseases Hospitals :—

——	Vaccinated.		Unvaccinated.	
	Attacks.	Deaths.	Attacks.	Deaths.
Under one year	25	20	54	41
Above one and under five years	51	25	19	14
Five and under ten years	60	18	10	5
Ten and under fifteen years	52	5	5	2
Fifteen and under twenty years	52	8	2	1
Twenty and under twenty-five	60	8	4	2
Twenty-five years and above	163	37	14	6
Total ...	403	121	108	71

The amount of protection against small-pox conferred by vaccination is well illustrated in the above table. Of the total 511 cases whose vaccinal conditions were verified it is found that 78 *per cent.* of the attacks with a case mortality of 30 *per cent.* were among the vaccinated against 21 *per cent.* and 65·74 *per cent.* respectively in the unvaccinated.

Death-rate from Small-pox during the Quinquennium.

Year.	*Vaccinated.*	*Unvaccinated.*
1913	17·30	50·00
1914	38·57	51·32
1915	13·37	41·18
1916	8·51	46·80
1917	30·00	65·74

Prosecutions.

The total number of prosecutions instituted during the year was 123 against 80 in 1916. The fines imposed amounted to Rs. 35 against Rs. 34-4-0 in the previous year. In 114 of these cases prosecution was for failure to have the children vaccinated, the result of which was that the children were all vaccinated subsequently. The remaining nine cases were for not bringing children for verification of results.

Fees.

The fees for primary vaccinations at private residences under bye-law 233 amounted to Rs. 207-12-0. The amount was collected and credited to the Corporation.

The cost of vaccination.

The cost of vaccination was Rs. 14,942. If the amount realised by vaccination at private residences is deducted the net expenditure amounts to Rs. 14,734-4-0. The net cost of each successful vaccination was annas eight and pies six against annas five and pies nine in 1916.

PLAGUE.

Plague work.

Ten Plague Inspectors worked during the year, receiving notification slips and observing notification holders. The services of all the Nurses were dispensed with from 1st April 1917 and their posts abolished. Dr. Krishna Reddy carried on the rat destruction operations in the City.

Inspection of vessels arriving at the Port, and issue of Plague notifications to passengers, were under the control of the Port Health Officer who reports as follows :

" 187 Incoming vessels carrying a crew of 21,491 persons and 79,436 passengers were inspected during the year, against 229 vessels of the previous year with 23,761 crew and 83,336 passengers. The decrease in the number of arrivals was due to War conditions.

" 136 out-going vessels with a crew of 14,245 persons and 46,321 passengers were granted bills of health during the year, against 287 out-going vessels of the previous year with 25,380 crew of 62,665 passengers. The large decrease under this head was due besides War conditions, also to the fact that during the previous year small-pox was present in an epidemic form during the greater part of the year and bills of health were therefore, granted even to vessels leaving for ports within India.

" As usual the first and second class passengers that arrived from Plague Infected ports were granted Plague notification papers, and the deck passengers had their bedding and clothing distinfected before they were allowed to go ashore. Crews embarking from here and deck passengers leaving for ports out of India had their personal effects disinfected prior to embarkation.

" Disinfection is carried on with the aid of steam in a shed specially erected for the purpose and which is in charge of a third grade Sub-Assistant Surgeon. A Claytons' Apparatus also is maintained for disinfecting ships and was made use of thrice during the year.

" 2,733 Plague notification papers were issued during the year, of which 750 were City and the rest moffussil.

" There were no epidemics during the year, one case of small-pox, four of measles and 11 of chicken-pox were found among the arrivals and they were removed to the Isolation Hospital (in the case of passengers), or to the Emigration Depot (in the case of return emigrants) together with their contacts. One case of Pneumonia also was sent with a view to determine the nature of the illness.

" Four cases of cholera were found among the emigration coolies sent from Avadi for being shipped to Penang, and they were at once sent to the Cholera Hospital, and the remaining coolies returned to the depot for surveillance."

Inspection and Observation of arrivals from Plague Infected Areas.

82,237 triplicate copies of Plague notifications were received from the several notification stations. Of these, 54,549 or 66·33 *per cent.* were traced to the parties answering to them, 27,688 or 33·67 *per cent.* were not traceable. This is due to the fact that in a large number of cases the addresses given were inaccurate or deceptive or the triplicates received were undecipherable: while in others, the parties having

come on temporary business returned to the last station from which they arrived or travelled further to some other station, without in either case leaving their addresses.

16 prosecutions were launched against persons who failed not only to comply with the instructions given on the notification slips but also to offer proper explanation for such non-compliance. 11 cases ended in conviction with fines varying from Rs. 2 to Rs. 5 and the rest ended in acquittals or were struck off for the non-appearance of the parties whose exact addresses subsequent to the prosecution were not obtainable.

Rat Destruction.

The number of rats sent to the incinerator during the year was 158,863 as against 138,611 in the previous year. Thus the total number of rats destroyed from the beginning of the operations came up to 2,255,419. Of these, 8,400 were caught alive as against 8,024 in the previous year. Out of the 8,400 caught alive some were sent to the Bombay Bacteriological Laboratory for examination. No Bacillus Pestis was found in the smears from the spleen of rats, examined locally.

Plague Cases.

There were eight cases of Plague during 1917 with six deaths, inclusive of one indigenous fatal case of Pneumonic Plague. Only three patients arriving from infected areas had Plague notifications, the rest had none. The one indigenous case referred to was in a Nurse who attended on an imported case of Pneumonic Plague. The usual preventive measures were taken. The proposal to include Basin Bridge in the list of notification stations was approved by Government about the end of the year; it was opened as such from 3rd January 1918. The staff is being disbanded in view of the decision arrived at by a committee recently appointed to revise the Madras Plague Regulations.

MALARIA.

Investigation.

No special work of investigation with regard to mosquito survey was undertaken during the year and as stated in my report for 1916 we maintained an attitude of watchful expectancy and our campaign was chiefly directed towards minimising mosquito nuisance and the subsequent danger to Public Health.

Malaria survey: Random sampling and Dispensary Statistics.

Examination of spleen in children between the ages of 2 and 10 years and of blood smears taken from them at random in areas recognised to be malarious was continued during the year, as also examination of blood smears from patients who suffering from fever resort to the Malaria Dispensaries for treatment. By these means we are in a position not only to judge of any increased prevalence of Malarial fevers but also to compare the results of our operations conducted during the last four years.

From tables in page 76 it will be seen that these well recognised malarious tracts in the City are greatly improved.

Anti-Malarial Measures.

Cleaning of tanks, ponds, &c.

927 tanks and ponds were cleaned and re-cleaned. Several of them had to be cleaned of all weeds and rank vegetation from four to seven times during the year, special attention being paid to eradicating Water Hyacinth.

Petrolising.

4,542 pits and cess-pools, 501 tanks, 897 ponds, 19 low-marshes and 30 wells were petrolised every week in addition to numerous other small pools and puddles that are formed soon after the rains in several low-lying tracts and tank beds. Portions of Cooum and Buckingham Canal are also included in the sphere of our operations.

Cleaning rank vegetation.

Large areas in Purasawakkam, Mylapore and Korukkupet have been cleared of prickly pear and other noxious vegetations.

Larvicidal fish.

Wells where fish were once put in but had disappeared were re-stocked with them. 2,270 wells were examined to ascertain whether fish once introduced were living in them and in 614 or 27·04 per cent. the wells were found rendered fishless.

In this connection it is well worth noting that to ensure success from this anti-malarial measure, it is most necessary that only the proper kind of fish are selected for the wells, that the wells are not subsequently treated with Petroleum or other chemical larvicides, and that they are not neglected and allowed to silt up. Wells in and around a house or houses infected with Cholera are treated with a solution of Permanganate of Potash or Chlorogen which kills fish. Such wells must be re-stocked after the effects of the disinfectant disappear.

Administration of quinine.

Three Malaria Dispensaries one each at Dhobipet, Royapuram and Purasawalkam continued working throughout the year and the number of patients treated in these is shown in the following table :

Dispensary.	Year.	Malaria.	Other diseases including all other fevers-	Total number of treatments.
Dhobipet.	1917	10,561	5,913	16,474
Do	1916	16,634	2,045	18,679
Royapuram.	1917	2,864	5,508	17,149
Do	1916	2,217	4,590	10,983
Purasawakam	1917	5,323	13,763	31,274
Do	1916	5,551	7,161	23,870

After the abolition of Malaria Nurses, these Sub-Assistant Surgeons have been required to visit daily certain paracheries and slum dwellings within their jurisdiction and to administer quinine to the sick at their houses. I can testify to the good work done by all the three Sub-Assistant Surgeons ; their reports regarding the health of their ranges formed a valuable index for the prevalence or absence of Malaria.

Drainage.

Drainage operations in Purasawakam and Perambur Divisions have still further been extended and several low-lands which would otherwise be water-logged for the greater part of the year have been rendered dry. Where the whole water could not be drained of, the swamps have been sufficiently reclaimed to prevent stagnation of water.

Reclamation.

Table in page 77 shows the amount of work done in this direction. Reclamation by means of street rubblish, burnt and unburnt, is continued, and as stated last year, the work is personally supervised by me in almost every instance, so as to give no cause for complaint. Except by this method, I do not think it would have been possible to fill up even within several years the several offensive tanks and lowgrounds in some parts of the City which had for many years past been afflicted with malarial fevers. For example, the Old Moat within the Central Salt Depot at Wall Tax Road is being reclaimed by street rubbish in accordance with the decision of the Committee that met to consider the problem of eradicating this great reservoir of mosquito life. The extent of work that was required to be done can be realised from the fact that over 250 cart-loads of rubbish, silt and earth have been dumped therein every day during the last 16 months and that there is work still for another six or nine months to fill up completely and level the whole area.

STATISTICS.

Tondiarpet (1st, 2nd and 3rd Divisions of Madras).

—	Year.	Jany.	Feby.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Total deaths	1917	276	264	303	277	228	266	300	303	276	303	301	288	3,385
Do	1916	280	250	274	242	235	178	226	245	236	238	200	251	2,855
Average for ten years	..	366	293	324	271	270	266	362	360	410	353	333	353	3,961
Fever deaths	1917	24	23	21	28	48	31	35	31	29	25	25	32	352
Do	1916	57	25	29	30	14	9	24	29	27	21	15	30	310
Average for ten years	...	87	79	90	77	79	71	72	92	101	84	78	88	998
Infantile deaths	1917	97	86	104	93	69	96	111	99	94	96	97	96	1,138
Do	1916	62	61	69	84	84	47	88	80	90	76	80	70	891
Average for ten years	...	105	83	82	71	86	79	85	99	88	85	76	93	1,032

Purasawakkam (11th Division).

—	Year.	Jany.	Feby.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	N	Dec.	Total.
Total deaths	1917	152	163	142	125	159	103	143	135	107	130	121	133	1,613
Do	1916	131	138	122	118	119	95	129	139	96	109	110	112	1,418
Average for ten years	...	155	134	133	112	125	114	124	146	152	150	125	152	1,622
Fever deaths	1917	13	13	11	10	15	14	15	16	9	16	11	8	151
Do	1916	14	13	11	13	10	11	12	8	10	9	9	8	128
Average for ten years	...	26	23	25	20	23	21	21	23	26	21	20	27	276
Infantile deaths	1917	54	53	44	40	61	31	42	38	35	46	33	49	526
Do	1916	52	36	30	33	43	26	53	50	36	42	42	38	481
Average for ten years	...	45	33	38	33	39	33	39	44	44	43	37	46	477

Mylapore (19th Division).

—	Year.	Jany.	Feby.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Total deaths	1917	110	97	99	92	90	84	158	127	97	101	102	138	1,295
Do	1916	130	154	138	110	118	93	95	97	78	83	85	91	1,272
Average for ten years	...	106	93	95	91	91	85	95	89	103	107	97	106	1,148
Fever deaths	1917	2	13	7	5	5	7	6	9	3	8	6	11	82
Do	1916	4	5	5	3	2	3	3	4	4	4	4	5	46
Average for ten years	...	25	24	25	15	16	14	17	14	17	16	16	15	214
Infantile deaths	1917	41	40	24	52	29	28	45	27	28	28	35	41	418
Do	1916	43	40	42	42	43	31	32	38	22	33	31	31	428
Average for ten years	...	33	22	24	26	25	24	28	30	31	38	28	32	341

Enquiries and reports from our Sub-Assistant Surgeons disprove the existence of any noticeable prevalence of Malaria Fever, and the very small rise must be attributed to several causes which as has been stated in the introduction, have contributed to a general rise in total and Infantile mortality.

K. RAGHAVENDRA RAO.
Ag. Health Officer.

1st *July* 1918.

APPENDIX.

ANNUAL FORM No. A.—METEOROLOGICAL DATA—MADRAS.

LATITUDE 13° 4′ N.

LONGITUDE 80° 15′ E.

MONTHS.			Barometer.	Reading of Thermometer.						Difference between dew point temperature and mean air temperature.	Degree of humidity complete saturation being 100.	Prevailing direction of wind.	Rainfall.			
				Dry.				Dew point.								
			Mean daily reading.	Maximum.	Minimum.	Mean daily range.	Mean daily value.	Mean daily value.	Mean maximum solar radiation.				Number of days on which rain fell.	Total fall of rain during the month.		Maximum fall of rain during 24 hours.
			...	...	...	...	...	...	...	...	...	...	...	Inches.		Inches
January	1917.		30·012	83·8	69·1	14·7	76·2	64·4	149·5	11·8	69	N. E. by E.	1	0·38		0·38
February	,,	...	29·933	85·8	69·5	16·3	77·4	66·9	151·6	10·5	72	East.	2	0·06	.44	0·05
March	,,	...	·885	89·3	71·8	17·5	80·5	69·2	154·5	11·3	71	E. S. E.	...	...		...
April	,,	...	·799	93·1	77·7	15·4	84·4	73·9	155·3	10·5	74	S. E. by S.	...	...		...
May	,,	.....	·775	97·0	79·6	17·4	86·3	71·6	152·7	14·7	65	S. S. E.	4	0·62		0·38
June	,,	...	·686	94.5	78·5	16·0	84·4	73·1	140·1	11·3	72	S. W. by S.	10	5·53	6·15	1·59
July	,,	...	·688	95·1	78·7	16·4	84·9	72·8	144·4	12·1	71	S. W. by S.	15	4·21		0·89
August	,,	...	·722	92·1	77·1	15·0	83·1	74·5	145·0	8·6	79	S. W. by S.	18	6·39	15.90	1·74
September	,,	..	·738	90·0	76·6	13·4	81·9	74·6	148·3	7·3	82	S. by W.	16	5·30		2·07
October	,,	...	·776	89·0	75·3	13·7	81·1	72·7	148·7	8·4	79	W. S. W.	11	16·48		6·52
November	,,	...	·877	85·0	74·3	10·7	79·0	72·2	142·3	6·8	82	N. N. E.	17	6·03	28·57	1·31
December	,,	...	·912	82·6	69·0	13·0	75·1	67·8	145·3	7·3	78	N. by E.	7	6·06		2·62

Annual Form No. I.—Births registered by Wards during the year 1917.

1	2		3			4			5			6	7	8	9			10	11
Present Divisions.	Wards.	Corresponding old Divisions.	Population according to Census of 1911.			No. of Births Registered.			Ratio of Births *per* 1,000 of Population.			Number of Males born to every 100 Females born.	Excess of Births over Deaths *per* 1,000 of Population.	Excess of Deaths over Births *per* 1,000 of Population.	Mean ratio of Births *per* 1,000 during previous five years.			Still Births.	*Illegitimate Births.
			Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.				Males.	Females.	Total.		
1	East Ward ...	1	9,768	10,550	20,318	491	496	987	50·3	47·0	48·6	99·0	9·7	...	42·8	39·0	40·8	35	64
2	Centre „ ..		20,396	20,239	40,635	1,096	1,024	2,120	53·7	50·6	52·2	107·0	0·7	...	39·9	38·1	39·0	130	96
3	West „ ...		7,820	7,300	15,120	363	293	656	46·4	40·1	43·4	123·9	9·9	...	31·8	32·0	31·9	30	52
4	East Ward ..	3	8,557	6,007	14,564	309	230	539	36·1	38·3	37·0	134·4	...	4·1	29·9	38·5	33·4	22	10
5	Centre „ ...		10,132	9,047	19,179	356	377	733	35·1	41·7	38·2	94·4	3·9		30·4	32·6	31·4	14	30
6	West „ ...		12,027	10,446	22,473	425	378	803	35·3	36·2	35·7	112·4	...	4 7	33·0	35·2	34·0	29	18
7	North Ward ...	2	18,410	1,8655	37,065	765	770	1,535	41·6	41·3	41·4	99·4	1·6	...	36·2	34·3	35·2	60	65
8	Centre „ ...		14,887	13,698	28,585	465	482	947	31·2	35·2	33·1	96·5	...	4·7	28·1	30·4	29·2	39	53
9	South „ ...		11,210	9,727	20,937	4 2	348	750	35·9	35·8	35·8	115·5	...	9·6	28·5	32·3	30·3	42	35
10	4th Division ...	4	13,137	11,842	24,979	627	571	1,198	47·7	48·2	48·0	109·8	7·8	...	41·3	43·0	42·1	54	40
11	North Ward ..	5	21,157	20,366	41,523	998	943	1,941	47·2	46·3	46·7	105·8	7·9	...	39·8	41·7	40·8	81	50
12	Centre „ ...		15,172	14,604	29,776	676	677	1,353	44·6	46·4	45·4	99·9	10·3	...	37·9	36·6	37·2	57	65
13	South „ ..		12,430	11,287	23,717	642	630	1,272	51·6	55·8	53·6	101·9	21·6	...	43·7	45·8	44·7	109	20
14	North Ward ..	6	6,216	5,535	11,751	220	222	442	35·4	40·1	37·6	99·1	0·2	...	34·3	36·1	35·1	18	19
15	South „ ..		7,622	7,558	15,180	342	318	660	44·9	42·1	43·5	107·5	9·2	...	39·2	38·4	38·8	22	34
16	North Ward ...	7	13,601	13,151	26,752	639	621	1,260	47·0	47·2	47·1	102·9	12·4	...	42·3	40·8	41·6	39	35
17	Centre „ ...		19,636	19,007	38,643	941	912	1,853	47·9	48·0	48·0	103·2	10·1	...	41·8	41·7	41·7	103	67
18	South „ ..		16,724	16,127	32,851	796	805	1,601	47·6	49·9	48·7	98·9	12·7	...	38·7	39·6	39·1	74	100
19	East Ward ...	8	16,998	17,360	34,358	931	815	1,746	54·8	46·9	50·8	114·2	13·1	...	39·0	35·7	37·3	74	90
20	West „ ...		10,565	9,689	20,254	430	470	900	40·7	48·5	44·4	91·5	14·0	...	38·6	43·3	40·8	45	52
	Total ...		266,465	252,195	518,660	11,914	11,382	23,296	44·7	45·1	44·9	104·7	6·5	...	37·4	38·0	37·7	1,077	995

* Included in the total Number of Births shown in column No. 4.

Annual Form No. II.—Statement of Deaths by Wards during the year 1917.

1	2		3	4	5			6			7	8														9		
					Population according to Census of 1911.			Number of Deaths Registered.				Deaths per 1,000 of Population from														Mean ratio of Deaths per 1000 during previous five years.		
																							All causes.					
Present Divisions.	Wards.	Corresponding old Divisions.	Area in Square Miles.	Average Population per Square Mile.	Males.	Females.	Total.	Males.	Females.	Total.	Number of Deaths of Males to every 100 Deaths of Females.	Cholera.	Small-pox.	Measles.	Plague.	Malaria.	Enteric Fever.	Other Fevers.	Dysentery and Diarrhoea.	Tubercle.	Respiratory diseases.	Injuries.	All other causes.	Males.	Females.	Total.	Males.	Females.	Total.
1	East Ward	1	0·92	22,085	9,768	10,550	20,318	391	398	789	98·2	0·2	0·5	0·2	...	2·8	0·05	1·7	8·7	2·3	3·9	0·4	18·0	40·0	37·7	38·8	45 5	42 6	44·0
2	Centre „		1·36	29,879	20,396	20,239	40,635	1,129	961	2,090	117·5	...	1·6	0·6	..	2 4	0·02	2·5	12·7	1·0	10·8	0·2	19·5	55·3	47·5	51·4	51·9	46 3	49·1
3	West „		3·03	4,990	7,820	7,300	15,120	273	233	506	117·2	...	0·5	0·2	...	2·4	...	1 7	6·6	2·0	7·5	0·2	12·4	34·9	31·9	33·5	50·5	52·9	51·7
4	East Ward	3	0·55	26,480	8,557	6,007	14,564	315	284	599	110·9	0·3	0 5	0·1	...	2·3	0·07	2·5	7·3	2·7	4·3	0·5	20·6	36·8	47·3	41·1	32·4	42·6	36·6
5	Centre „		0·21	91,329	10,132	9,047	19,179	321	338	659	95·0	0 05	0·4	0·05	...	1·4	0·2	0·9	6·2	2·1	6·2	0·3	16·6	31·7	37·4	34·4	30·2	32·8	31·5
6	West „		0·24	93,639	12,027	10,446	22,473	464	445	909	104·3	...	0·6	...	...	1·8	0·04	1·6	7·0	2 4	6 6	0·2	20·2	38·6	42·6	40·4	36 2	40·3	38·1
7	North Ward	2	0·42	88,250	18,410	18,655	37,065	687	788	1,475	87·2	0·05	0·3	..	0·03	1·4	.	...	8·3	2·2	7·7	0 3	19 6	37·3	42·2	39·8	37·9	40·3	39·1
8	Centre „		0·24	119,104	14,887	13,698	28,585	494	587	1,081	84·2	...	0·1	...	0 03	1·6	0·07	...	5·9	1·9	7·7	0·3	20·1	33·2	42·9	37·8	31·8	38·3	34·9
9	South „		0·36	58,158	11,210	9,727	20,937	518	433	951	119·6	0 2	0·3	0·2	0·2	0·6	0 3	1·0	5·8	4·3	11·7	0·9	19 9	46·2	14·5	45·4	44·5	38·9	41·9
10	4th Division	4	3·88	6,438	13,137	11,842	24,979	537	466	1,003	115·2	0·04	0·4	0·08	...	2·9	...	0·6	10·2	1·7	4·1	0 4	19·7	40 9	39·4	40·2	39·6	40 9	40·2
11	North Ward	5	0·70	59,319	21,157	20,366	41,523	774	839	1,613	92·3	0 1	0·1	0·1	...	2·6	0·1	0·9	9·2	1·8	5·3	0·4	18·2	36·6	41·1	38·8	38·4	41·4	39·9
12	Centre „		0·95	31,343	15,172	14,604	29,776	508	538	1,046	94·4	0·2	0·2	0·2	...	0·4	0·07	0·4	7·7	3 5	8·7	0 6	13·1	33·4	36·8	35·1	33·3	34·8	34·0
13	South „		1·16	20,446	12,430	11,287	23,717	365	394	759	92·6	0·2	0·4	0·1	...	2·2	0·04	0 4	6·4	1·3	3·5	0·4	17·1	29·4	34·9	32·0	32·6	37·8	35·1
14	North Ward	6	2·40	4,896	6,216	5,535	11,751	242	198	440	122·2	0·09	0·09	...	...	2·1	0·3	1·5	10·9	2·8	3·7	0·1	15 9	38·9	35·8	37·4	33·1	3[illegible]5	35·7
15	South „		1·76	8,625	7,622	7,558	15,180	262	258	520	101·6	1·5	...	0 07	...	1·3	...	1·8	9·4	1·5	3·8	0·3	14·8	34·4	34·1	34·3	34·6	33·3	34·0
16	North Ward	7	0·36	74,311	13,601	13,151	26,752	484	444	928	109·0	0·1	0·3	0·2	...	2·1	0·04	0·9	6·6	1·3	4·0	0·6	18·5	35 6	33·8	34·7	36·9	36·9	36·9
17	Centre „		1·83	21,116	19,636	19,007	38,643	693	769	1,462	90·1	0·03	0·05	0·2	...	0·4	0·2	1·8	6·3	2·3	5·9	0·3	20·5	35·3	40·5	37·8	39·1	43·3	41·2
18	South „		0·72	45,626	16,724	16,127	32,851	558	617	1,175	90·4	0·09	0·09	0·2	...	0·5	0·2	1·9	5·8	2·3	6·1	0·3	18·4	33·4	38·3	35·8	36 8	39·9	38·4
19	East Ward	8	2·64	13,014	16,998	17,360	34,358	686	609	1,295	112·6	0·3	0·4	0·1	..	1·6	0·1	0·7	9·2	1·6	5·6	0·6	17·6	40·4	35·1	37·7	38·0	38·9	38·5
20	West „		3·90	5,193	10,565	9,689	20,254	3[illegible]4	313	617	27·1	0·1	0.4	0·1	..	1·2	0·1	0·5	7·3	1·4	3·9	0·3	14·9	28·8	32·3	30 5	33·9	37·0	35 4
	Total ...		27·6	18,792	266,465	252,195	518,660	10,005	9,912	19,917	100·9	0·2	0·4	0·2	0·01	1·7	0·09	1·1	7·9	2·1	6·4	0·4	18·1	37·5	39·3	38·4	38·2	40·1	39·2

Annual Form No. III.—Deaths registered by Wards during each month of the year 1917.

1	2		3												4
Present Divisions.	Wards.	Corresponding old Divisions.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total Deaths registered during the year.
1	East Ward ...	1	78	55	68	57	48	54	76	68	66	79	76	64	789
2	Centre " ...		161	171	193	176	137	159	182	194	168	181	189	179	2,090
3	West " ...		37	38	42	44	43	53	42	41	42	43	36	45	506
4	East Ward ...	3	47	38	53	45	44	40	47	71	52	50	60	52	599
5	Centre " ...		47	43	42	45	49	43	67	55	48	71	67	82	659
6	West " ...		73	62	68	69	61	63	89	66	73	112	84	89	909
7	North Ward ...	2	108	106	130	113	105	110	146	125	133	123	119	157	1,475
8	Centre " ...		94	65	88	81	75	73	106	88	104	103	104	100	1,081
9	South " ..		78	75	83	80	78	75	88	92	77	85	70	70	951
10	4th Division ...	4	82	80	110	72	97	73	90	93	71	78	73	84	1,003
11	North Ward ...	5	152	163	142	125	159	103	143	135	107	138	121	133	1,613
12	Centre " ...		88	79	87	85	96	83	84	88	85	105	81	85	1,046
13	South " ...		51	41	67	72	56	61	64	75	55	68	71	78	759
14	North Ward ...	6	36	41	27	45	42	48	37	36	27	37	34	30	440
15	South " ...		36	43	43	31	36	49	65	58	39	50	37	33	520
16	North Ward ...	7	80	72	79	92	79	77	82	70	67	86	79	65	928
17	Centre " ...		116	139	125	125	128	114	126	120	116	118	108	127	1,462
18	South " ...		100	134	94	91	103	80	124	91	88	83	86	101	1,175
19	East Ward ..	8	110	97	99	92	90	84	158	127	97	101	102	138	1,295
20	West " ...		40	50	43	47	48	47	70	69	39	48	57	59	617
...	Total ...		1,614	1,592	1,683	1,587	1,574	1,489	1,886	1,762	1,554	1,751	1,654	1,771	19,917

Annual Form No. IV.—Deaths registered according to Age by Wards during the year 1917.

1	2		3		4		5		6		7		8		9		10		11		12	
Present Divisions.	Wards.	Corresponding old Divisions.	Under 1 Year.		1 Year and under 5 Years.		5 Years and under 10 Years.		10 Years and under 15 Years.		15 Years and under 20 Years.		20 Years and under 30 Years.		30 Years and under 40 Years.		40 Years and under 50 Years.		50 Years and under 60 Years.		60 Years and upwards.	
			Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	East Ward	1	161	134	52	60	12	10	5	4	9	10	18	43	27	17	20	26	33	27	54	67
2	Centre "		354	303	151	173	47	36	23	14	21	24	82	83	120	68	78	36	75	49	178	175
3	West "		107	79	25	38	12	8	4	3	9	6	25	17	13	23	19	10	19	18	40	31
4	East Ward	3	112	83	37	35	13	10	5	4	3	10	19	33	26	20	25	20	25	12	50	57
5	Centre "		108	109	41	44	10	8	4	6	10	10	28	38	21	21	18	14	28	25	53	63
6	West "		149	121	50	81	11	16	10	7	10	26	36	50	29	28	34	26	49	23	86	67
7	North Ward	2	242	226	92	104	15	18	7	20	10	38	42	86	53	51	43	48	73	51	110	146
8	Centre "		156	156	70	73	14	13	6	11	10	22	32	77	46	50	32	30	47	41	81	114
9	South "		133	119	51	51	5	10	9	7	17	17	61	38	57	42	52	26	54	25	79	98
10	4th Division	4	193	151	88	85	14	20	5	9	13	13	41	28	34	20	29	19	27	19	93	102
11	North Ward	5	269	257	144	152	30	34	17	18	14	19	42	80	52	45	39	34	49	42	118	158
12	Centre "		171	156	96	105	33	18	6	13	13	20	27	46	29	28	32	27	28	37	73	88
13	South "		139	129	59	52	12	17	3	6	8	16	26	45	23	31	21	21	16	11	58	66
14	North Ward	6	55	48	37	37	7	9	2	3	5	5	15	15	27	10	18	15	30	13	46	43
15	South "		76	66	43	49	20	10	5	3	3	8	17	29	18	13	19	19	14	17	47	44
16	North Ward	7	163	139	76	75	12	14	7	8	4	10	30	42	36	30	41	15	31	21	84	90
17	Centre "		273	261	86	78	14	18	8	12	9	25	40	89	45	40	48	38	52	40	118	168
18	South "		221	180	63	89	13	26	8	16	12	27	27	58	35	45	35	33	37	25	107	118
19	East Ward	8	234	184	99	115	27	23	19	13	15	15	41	59	50	34	43	21	46	27	112	118
20	West "		124	119	39	50	13	5	3	6	6	9	15	23	9	12	16	11	17	15	62	63
	Total...		3,440	3,020	1,399	1,546	334	323	156	183	201	330	664	979	750	628	662	489	750	538	1,649	1,876
	* Ratio per 1,000...		288·7	265·3	64·4	69·8	11·7	11·1	5·6	7·3	8·1	12·7	12·3	19·1	18·2	17·4	21·4	18·2	42·2	32·7	125·1	146·6

* In the case of children under one year of age, the rates are calculated on the number of Live births during the year ; in all other cases on the numbers living at the time of the Census.

Annual Form No. V.—Deaths registered according to Class by Wards during the year 1917.

1	2		3					4					5				
			Population (according to Census of 1911).					Number of deaths registered.					Ratio of deaths per 1,000 of Population.				
Present Divisions.	Wards.	Corresponding old Divisions.	Christians.	Hindus.	Mahomedans.	Others.	Total.	Christians.	Hindus.	Mahomedans.	Others.	Total.	Christians.	Hindus.	Mahomedans.	Others.	Total.
1	East Ward ...		5,271	13,976	1,015	56	20,318	152	562	75	...	789	28·8	40·1	73·9	...	38·8
2	Centre " ...	1	1,151	36,276	3,196	12	40,635	60	1,838	192	...	2,090	52·1	50·7	60·1	...	51·4
3	West " ...		327	12,502	2,193	98	15,120	7	406	93	...	506	21·4	32·5	42·4	...	33·5
4	East Ward ...		540	9,199	4,771	54	14,564	9	340	249	...	599	16·7	27·0	52·2	...	41·1
5	Centre " ...	3	2,672	15,477	965	65	19,179	56	564	38	1	659	20·9	36·4	39·4	15 4	34·4
6	West " ...		2,421	15,951	4,087	14	22,473	63	678	168	...	909	26·0	42·5	41·1	...	40·4
7	North Ward ...		1,891	33,769	1,357	48	37,065	58	1,365	52	...	1,475	30·7	40·4	38·3	...	39·8
8	Centre " ...	2	90	27,625	388	482	28,585	4	1,072	5	...	1,081	44·4	38 8	12 9	...	37·8
9	South " ...		962	19,634	276	65	20,937	74	861	16	...	951	76·9	43·9	57·9	...	45·4
10	4th Division ...	4	815	18,981	5,139	44	24,979	24	767	212	...	1,003	29·4	40·4	41·3	...	40·2
11	North Ward ...		4,176	36,638	643	66	41,523	116	1,471	26		1,613	27·8	40.1	40·4	...	38·8
12	Centre " ...	5	5,144	22,629	1,798	205	29,776	115	864	65	2	1,046	22·4	38·2	36·1	9·9	35·1
13	South " ...		4,176	17,399	2,053	89	23,717	91	590	76	...	759	21·8	33·9	37·0		32·0
14	North Ward ...	6	1,372	10,105	270	4	11,751	26	396	15	3	440	18·9	39·2	55·6	750·0	37.4
15	South " ...		2,141	11,589	1,384	66	15,180	54	413	51	2	520	25·2	35·6	36·8	30·3	34·3
16	North Ward ...		2,356	23,023	1,324	49	26,752	60	819	49	...	928	25·5	35·6	36·2	...	34·7
17	Centre " ...	7	483	23,215	14,934	11	38,643	4	835	613	...	1,462	82·8	36·0	41·0	...	37·8
18	South " ...		572	24,738	7,490	51	32,851	9	856	310	...	1,175	15·7	34·6	41·4	...	35·8
19	East Ward ...	8	2,806	26,008	5,274	272	34,358	78	975	242	...	1,295	27·8	37·5	45.9	...	37·7
20	West " ...		2,446	17,178	612	18	20,254	74	528	15	...	617	30·3	30·7	24·5	...	30·5
...	Total ...		41,812	415,910	59,169	1,769	518,660	1,134	16,202	2,573	8	19,917	27·1	39·0	43·5	4·5	38·4

Annual Form No. VI.—Deaths registered from *Cholera* by Wards during each month of the year 191 .

1	2		3												4			5			6
Present divisions.	Wards.	Corresponding old divisions.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of Population.			Mean ratio per 1,000 during previous five years.
															Males.	Females.	Total.	Males.	Females.	Total.	
1	East Ward ...	1	...	...	...	...	...	...	4	1	...	...	...	...	3	2	5	0·3	0·3	0·02	1·4
2	Centre „ ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·7
3	West „ ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1·0
4	East Ward ...	3	...	...	...	...	...	...	...	3	1	...	1	...	2	3	5	0·2	0·5	0·3	0·3
5	Centre „ ...		...	...	...	...	...	...	1	...	...	...	...	...	1	...	1	0·1	...	00·5	0·5
6	West „ ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·8
7	North Ward ...	2	...	...	...	...	...	...	1	1	...	...	...	...	...	2	2	...	0·1	0·05	0·6
8	Centre „ ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·5
9	South „ ...		...	...	...	...	...	...	2	3	...	...	...	...	4	1	5	0·4	0·1	0·2	0·4
10	4th Division ...	4	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1	0·07	...	0·04	0·8
11	North Ward ...	5	...	...	...	...	...	...	4	...	1	...	...	...	2	3	5	0·09	0·1	0·1	0·7
12	Centre „ ...		1	...	...	3	...	...	...	1	1	...	...	...	2	4	6	0·1	0·3	0·2	0·9
13	South „ ...		...	...	...	...	...	1	3	1	...	...		...	3	2	5	0·2	0·2	0·2	1·2
14	North Ward ...	6	...	...	...	...	1	...	...	1	...	...	...	...	1	...	1	0·2	...	0·09	0·8
15	South „ ...		...	...	...	...	...	...	11	11	1	...	...	...	6	17	23	0·8	2·2	1·5	0·7
16	North Ward ...	7	...	...	...	...	...	...	1	...	...	1	...	...	1	2	3	0·07	0·2	0·1	1·0
17	Centre „ ...		...	...	...	...	...	...	1	...	...	...	...	...	...	1	1	...	0·05	0·03	1·3
18	South „ ...		...	...	...	...	...	...	1	2	...	...	...	...	1	2	3	0·06	0·1	0·09	0·8
19	East Ward ...	8	...	...	...	...	...	...	7	1	...	...	...	1	8	1	9	0·5	0·06	0·3	1·7
20	West „ ...		...	...	...	...	...	1	1	1	...	...	...	...	3	...	3	0·3	...	0·1	0·7
...	Total ...		1	...	...	3	1	2	37	26	5	1	1	1	38	40	78	0·1	0·2	0·2	0·9

Annual Form No. VII.—Deaths registered from *Small-pox* by Wards during each month of the year 1917.

1	2		3												4			5			6
Present Divisions.	Wards.	Corresponding Old Divisions.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of Population.			Mean ratio per 1,000 during previous five years.
															Males.	Females.	Total.	Males.	Females.	Total.	
1	East Ward	1	1	1	3	2	1	...	1	...	...	...	...	1	3	7	10	0·3	0.7	0·5	0·2
2	Centre „		2	4	11	11	11	9	9	3	1	...	...	5	33	33	66	1·1	1·1	1·6	0·2
3	West „		1	...	1	1	4	...	...	...	...	...	...	...	4	3	7	0·5	0.4	0·5	0·1
4	East Ward	3	...	1	1	4	...	1	...	...	...	...	...	...	2	5	7	0·2	0·8	0·5	0·3
5	Centre „		4	...	...	1	1	...	...	...	1	...	...	...	4	3	7	0·4	0·3	0·4	0·3
6	West „		2	...	3	1	1	3	...	1	...	...	1	1	7	6	13	0·6	0·6	0·6	0·2
7	North Ward	2	1	3	1	1	...	1	1	1	...	...	...	1	3	7	10	0·2	0·4	0·3	0·2
8	Centre „		...	2	1	...	...	...	...	...	...	...	...	...	2	1	3	1·1	0·07	0·1	0·4
9	South „		...	...	...	1	2	1	...	...	1	2	...	...	2	5	7	0·2	0·5	0·3	0·2
10	4th Division... ...	4	1	1	2	2	2	1	...	...	...	...	...	...	8	1	9	0·6	0.08	0·4	0·08
11	North Ward	5	...	1	...	1	...	...	1	1	...	...	...	...	3	1	4	0·1	0·05	0·1	0·1
12	Centre „		...	2	3	...	1	1	...	...	...	...	...	...	5	2	7	0·3	0·1	0·2	0·2
13	South „		1	...	5	1	2	...	...	...	...	...	...	...	5	4	9	0·4	0·4	0·4	0·4
14	North Ward	6	...	...	...	1	...	...	...	...	...	...	...	...	...	1	1	...	0·2	0·09	0·09
15	South „		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·3
16	North Ward	7	...	...	1	5	2	...	...	...	...	...	...	...	4	4	8	0·3	0·3	0·3	0·3
17	Centre „		...	...	2	...	...	...	...	...	...	...	...	...	...	2	2	...	0·1	0·05	0·5
18	South „		...	...	...	1	...	...	...	...	1	...	1	...	...	3	3	...	0·2	0·09	0·6
19	East Ward	8	2	1	5	3	1	...	1	...	...	...	...	...	8	5	13	0·5	0·3	0·4	0·6
20	West „		1	2	4	1	...	...	...	...	...	1	...	...	4	5	9	0·4	0·5	0·4	0·2
	Total ...	...	16	18	43	37	28	17	13	6	4	3	2	8	97	98	195	0·4	0·4	0·4	0·2

Annual Form No. VIII.—Deaths registered from *Measles* by Wards during each month of the year 1917.

1	2		3												4			5			6
Present Divisions.	Wards.	Corresponding Old Divisions.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of Population.			Mean ratio per 1,000 during previous five years.
															Males.	Females.	Total.	Males.	Females.	Total.	
1	East Ward	1	1	...	...	1	1	...	...	...	1	...	1	...	1	4	5	0·1	0·4	0·2	0·5
2	Centre "		...	6	9	1	2	1	...	3	...	1	...	...	16	7	23	0·8	0·3	0·6	0·4
3	West "		...	...	...	1	1	...	...	1	...	...	...	...	2	1	3	0·2	0·1	0·2	1·0
4	East Ward... ...	3	...	...	...	...	...	...	1	1	...	...	...	...	1	1	2	0·1	0·2	0·1	0·3
5	Centre "		...	...	...	...	...	1	...	...	...	...	...	...	...	1	1	...	0·1	0·05	0·3
6	West "		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·1
7	North Ward	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·03
8	Centre "		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·1
9	South "		...	...	...	2	1	1	...	...	...	...	...	...	3	1	4	0·3	0·1	0·2	0·2
10	4th Division	4	...	...	2	...	...	...	...	...	...	...	...	...	1	1	2	0·08	0·08	0·08	0·1
11	North Ward	5	1	1	2	1	...	...	...	...	...	...	...	...	2	3	5	0·09	0·1	0·1	0·1
12	Centre "		1	...	1	1	3	...	...	1	...	...	...	...	3	4	7	0·2	0·3	0·2	0·08
13	South "		...	...	2	...	...	...	1	...	...	...	...	...	1	2	3	0·08	0·2	0·1	0·1
14	North Ward... ...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·09
15	South "		...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	0·1	...	0·07	0·1
16	North Ward	7	...	...	1	3	1	...	...	...	...	...	...	...	3	2	5	0·2	0·2	0·2	0·2
17	Centre "		...	...	2	1	1	1	...	...	...	1	...	...	4	2	6	0·3	0·1	0·2	0·6
18	South "		...	3	1	...	...	...	...	...	1	...	...	...	2	3	5	0·1	0·2	0·2	0·6
19	East Ward... ...	8	...	..	3	1	1	...	...	...	...	...	...	...	3	2	5	0·1	0·1	0·1	0·3
20	West "		2	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	0·2	0·1	0·2
	Total...	...	5	10	24	12	11	4	2	6	2	2	1	...	43	36	79	0·2	0·1	0·2	0·3

Annual Form No. IX.—Deaths registered from *Plague* by Wards during each month of the year 1917.

1	2		3												4			5			6
Present Divisions.	Wards.	Corresponding Old Divisions.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total. Males.	Total. Females.	Total. Total.	Ratio of deaths per 1,000 of Population. Males.	Ratio of deaths per 1,000 of Population. Females.	Ratio of deaths per 1,000 of Population. Total	Mean ratio per 1,000 during previous five years.
1	East Ward		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	Centre "	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·005
3	West "		...	...	...	...	...	...	.	...	...	...	...	...	...	...	...	...	...	...	...
4	East Ward ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...
5	Centre "	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0 02
6	West "		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	North Ward		1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	0·05	0·03	0·005
8	Centre "	2	1	...	...	..	...	...	...	...	...	...	...	..	1	...	1	0 07	...	0·03	0·01
9	South "		...	2	1	...	...	...	...	...	1	...	...	...	4	...	4	0·4	...	0·2	0·01
10	4th Division	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	North Ward... ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	Centre "	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·07
13	South "		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·008
14	North Ward... ...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	South "		...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	..	...
16	North Ward... ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	Centre "	7	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	0·005
18	South "		...	...	...	...	...	...	...	...	...	.	...	...	...	...	...	...	...	...	0·03
19	East Ward	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·006
20	West "		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·01
	Total...		2	2	1	...	...	...	...	...	1	...	...	...	5	1	6	0·2	0·004	0·01	0·006

Annual Form No. X.—Deaths registered from *Malaria* by Wards during each month of the year 1917.

1	2		3												4			5			6
Present Divisions.	Wards.	Corresponding Old Divisions.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of Population.			Mean ratio per 1,000 during previous five years.
															Males.	Females.	Total.	Males.	Females.	Total.	
1	East Ward	1	6	3	4	3	6	4	5	8	4	3	4	7	29	28	57	3·0	2·7	2·8	6·4
2	Centre "		5	7	4	13	16	15	9	3	6	5	8	5	54	42	96	2·6	2·1	2·4	7·5
3	West "		3	2	1	4	9	5	5	2	...	1	1	4	18	19	37	2·3	2·6	2·4	11·8
4	East Ward	3	2	2	1	2	1	3	4	1	3	7	2	6	18	16	34	2·1	2·7	2·3	5·2
5	Centre "		3	2	...	1	6	1	...	4	1	2	3	4	14	13	27	1·4	1·4	1·4	4·8
6	West "		8	1	5	3	1	2	5	3	2	4	4	2	24	16	40	2·0	1·5	1·8	7·3
7	North Ward	2	4	3	2	2	2	3	5	5	5	6	4	11	20	32	52	1·1	1·7	1·4	5·7
8	Centre "		4	2	6	2	3	3	6	3	2	5	9	2	15	32	47	1·0	2·3	1·6	5·5
9	South "		3	...	2	1	...	...	1	1	2	...	1	2	8	5	13	0·7	0·5	0·6	4·2
10	4th Division	4	7	3	3	6	8	7	9	13	6	7	2	2	36	37	73	2·7	3·1	2·9	3·4
11	North Ward	5	10	12	8	7	14	8	11	10	6	9	8	6	51	58	109	2·4	2·8	2·6	3·9
12	Centre "		1	1	2	...	2	...	...	1	1	1	2	...	6	5	11	0·4	0·3	0·4	2·1
13	South "		9	1	4	1	7	8	5	5	1	2	3	6	22	30	52	1·8	2·7	2·2	1·7
14	North Ward	6	6	2	...	2	2	3	3	4	...	3	...	...	12	13	25	1·9	2·4	2·1	2·1
15	South "		3	3	...	...	...	1	3	...	...	5	4	...	10	9	19	1·3	1·2	1·3	1·4
16	North Ward	7	14	5	1	1	7	9	6	...	2	3	3	5	29	27	56	2·1	2·1	2·1	2·1
17	Centre "		2	2	1	...	..	...	2	3	2	2	...	2	8	8	16	0·4	0·4	0·4	1·4
18	South "		...	2	1	2	2	...	3	...	...	4	...	2	8	8	16	0·5	0·5	0·5	1·6
19	East Ward	8	1	13	6	3	5	5	5	5	1	3	1	6	26	28	54	1·5	1·6	1·6	3·6
20	West "		1	3	1	1	3	4	1	5	1	...	2	3	10	15	25	0·9	1·5	1·2	3·6
	Total...	...	92	69	52	54	94	81	88	76	45	72	61	75	418	441	859	1·6	1·7	1·7	4·2

Annual Form No. XI.—Deaths registered from *Enteric Fever* by Wards during each month of the year 1917.

1	2		3												4			5			6
Present Divisions.	Wards.	Corresponding Old Divisions.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total. Males.	Total. Females.	Total. Total.	Ratio of deaths per 1,000 of Population. Males.	Ratio of deaths per 1,000 of Population. Females.	Ratio of deaths per 1,000 of Population. Total.	Mean ratio per 1,000 during previous five years.
1	East Ward ...	1	...	...	...	...	...	1	...	...	...	...	...	...	1	...	1	0·1	...	0·05	0·1
2	Centre " ...		...	...	...	...	1	...	...	...	...	...	...	...	1	...	1	0·05	...	0·02	0·02
3	West " ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·1
4	East Ward ...	3	...	...	...	...	...	...	1	...	...	...	...	...	1	...	1	0·1	...	0·07	0·1
5	Centre " ...		...	...	1	...	...	...	...	1	...	1	...	...	3	...	3	0·3	...	0·2	0·2
6	West " ...		...	...	...	...	...	...	...	...	...	1	...	...	1	...	1	0·08	...	0·04	0·09
7	North Ward ...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·1
8	Centre " ...		...	...	...	...	...	...	1	1	...	...	...	...	1	1	2	0·07	0·07	0·07	0·03
9	South " ...		...	...	2	...	...	1	...	1	1	...	1	...	5	1	6	0·4	0·1	0·3	0·2
10	4th Division ...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·04
11	North Ward ...	5	1	...	2	...	...	1	...	...	1	...	...	...	3	2	5	0·1	0·1	0·1	0·05
12	Centre " ...		...	...	...	...	...	...	...	...	1	...	1	...	...	2	2	...	0·1	0·07	0·1
13	South " ...		...	...	...	...	...	...	1	...	...	...	...	...	...	1	1	...	0·09	0·04	0·1
14	North Ward ...	6	1	...	...	...	1	...	...	...	1	...	...	...	2	1	3	0·3	0·2	0·3	0·02
15	South " ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·1
16	North Ward ...	7	...	...	...	...	...	...	...	...	1	...	...	...	...	1	1	...	0·08	0·04	0·1
17	Centre " ...		...	...	...	1	...	1	2	1	...	...	1	...	4	2	6	0·2	0·1	0·2	0·2
18	South " ...		...	3	...	...	...	...	...	2	...	...	...	1	4	2	6	0·2	0·1	0·2	0·2
19	East Ward ...	8	...	...	...	1	...	...	1	1	...	...	2	...	3	2	5	0·1	0·1	0·1	0·1
20	West " ...		...	...	...	2	...	...	...	...	...	...	1	...	3	...	3	0·3	..	0·1	0·1
	Total ..	...	2	3	5	4	2	4	6	7	5	2	6	1	32	15	47	0·1	0·06	0·09	0·1

Annual Form No. XII.—Deaths registered from *Other Fevers* by Wards during each month of the year 1917.

1	2		3												4			5			6
Present Divisions.	Wards.	Corresponding Old Divisions.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.			Ratio of Deaths per 1,000 of Population.			Mean ratio per 1,000 during previous five years.
															Males.	Females.	Total.	Males.	Females.	Total.	
1	East Ward ...	1	2	2	4	4	2	...	3	...	5	4	3	5	9	25	34	0·9	2·4	1·7	3·6
2	Centre " ...		5	8	8	4	11	4	11	14	9	10	9	7	42	58	100	2·1	2·9	2·5	3·8
3	West " ...		3	1	...	...	3	2	2	4	5	2	...	4	10	16	26	1·3	2·2	1·7	4·2
4	East Ward ...	3	2	2	4	2	1	...	3	6	3	5	4	4	9	27	36	0·01	4·5	2·5	1·9
5	Centre " ...		...	1	2	...	2	3	3	...	...	2	3	1	10	7	17	1·0	0·8	0·9	0·8
6	West " ...		...	...	3	1	2	10	5	3	1	7	3	2	11	26	37	0·9	2·5	1·6	0·9
7	North Ward ...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1·1
8	Centre " ...		...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·7
9	South " ...		4	3	1	4	1	...	...	3	...	3	1	...	11	9	20	1·0	0·9	1·0	1·4
10	4th Division ...	4	...	...	...	1	1	1	1	3	1	2	4	...	5	9	14	0·4	0·8	0·6	0·8
11	North Ward ...	5	2	1	1	3	1	5	4	6	2	7	3	2	12	25	37	0·6	1·2	0·9	1·0
12	Centre " ...		2	1	2	1	2	1	1	...	...	1	...	1	8	4	12	0·5	0·3	0·4	1·2
13	South " ...		...	...	...	...	...	3	...	...	1	3	...	2	3	6	9	0·2	0·5	0·4	0·7
14	North Ward ...	6	1	...	...	1	3	2	1	3	2	1	2	2	12	6	18	1·9	1·1	1·5	1·3
15	South " ...		1	2	2	1	2	3	2	4	3	2	3	2	15	12	27	2·0	1·6	1·8	1·5
16	North Ward ...	7	...	2	2	10	...	4	1	1	1	1	2	...	9	15	24	0·7	1·1	0·9	0·6
17	Centre " ...		2	10	7	8	5	7	7	5	3	5	4	5	30	38	68	1·5	2·0	1·8	1·3
18	South " ...		4	5	5	3	5	4	6	8	7	4	3	9	17	46	63	1·0	2·9	1·9	1·3
19	East Ward ...	8	1	...	1	1	...	2	...	3	2	5	3	5	11	12	23	0·6	0·7	0·7	0·8
20	West " ...		...	...	1	1	...	1	..	3	1	1	1	1	7	3	10	0·7	0·3	0·5	0·8
	Total ...	...	29	38	43	45	41	52	50	66	46	65	48	52	231	344	575	0·9	1·4	1·1	7·2

Annual Form No. XIII.—Deaths registered from *Dysentery and Diarrhœa* by Wards during each month of the year 1917.

1	2		3												4			5			6
Present Divisions.	Wards.	Corresponding Old Divisions.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total. Males.	Total. Females.	Total. Total.	Ratio of deaths per 1,000 of Population. Males.	Ratio of deaths per 1,000 of Population. Females.	Ratio of deaths per 1,000 of Population. Total.	Mean ratio per 1,000 during previous five years.
1	East Ward ...	1	18	11	14	14	11	17	19	17	12	18	17	9	89	88	177	9·1	8·3	8·7	10·3
2	Centre „ ...		40	48	50	46	21	30	49	59	38	42	41	50	283	231	514	13·9	11·4	12·7	12·0
3	West „ ...		12	12	8	7	5	8	5	12	11	8	4	8	48	52	100	6·1	7·1	6·6	12·0
4	East Ward ...	3	10	9	13	8	8	5	7	12	10	4	11	9	52	54	106	6·1	9·0	7·3	7·5
5	Centre „ ...		7	9	6	10	5	6	19	13	12	6	8	18	55	64	119	5·4	7·1	6·2	6·3
6	West „ ...		12	8	12	13	13	7	19	15	10	17	16	16	78	80	158	6·5	7·7	7·0	7·5
7	North Ward ...	2	26	29	32	24	26	29	31	22	25	18	14	30	144	162	306	7·8	8·7	8·3	6·1
8	Centre „ ...		24	15	9	16	15	17	27	13	5	12	4	11	79	89	168	5·3	6·5	5·9	5·0
9	South „ ...		6	13	17	11	18	10	12	8	9	6	7	5	72	50	122	6·4	5·1	5·8	5·3
10	4th Division ...	4	22	23	24	17	37	20	22	18	17	19	13	24	128	128	256	9·7	10·8	10·2	13·5
11	North Ward ...	5	37	36	41	34	51	22	28	21	29	26	23	34	173	209	382	8·2	10·3	9·2	13·2
12	Centre „ ...		21	20	29	19	26	22	14	10	12	27	14	15	107	122	229	7·1	8·3	7·7	7 9
13	South „ ...		12	4	13	22	13	15	12	16	7	12	15	11	83	69	152	6·7	6·1	6·4	8·9
14	North Ward ...	6	10	17	12	18	10	9	9	16	9	8	6	4	61	67	128	9·8	12·1	10·9	11·7
15	South „ ...		11	16	15	8	11	18	23	17	6	9	4	4	72	70	142	9·4	9·3	9·4	10·2
16	North Ward ...	7	17	16	16	19	20	22	15	14	6	14	10	7	101	75	176	7·4	5·7	6·6	8·1
17	Centre „ ...		20	26	22	18	26	20	22	21	19	19	12	18	114	129	243	5·8	6·8	6·3	7·2
18	South „ ...		20	26	18	10	16	15	32	15	13	9	5	11	86	104	190	5·1	6·4	5·8	6·5
19	East Ward ...	8	34	33	16	23	17	21	45	33	19	25	23	26	157	158	315	9·2	9·1	9·2	11·2
20	West „ ...		10	16	13	11	10	17	21	14	7	11	6	12	74	74	148	7·0	7·6	7·8	10·8
	Total ...	...	369	387	380	348	359	330	431	366	276	310	253	322	2,056	2,075	4,131	7·7	8·2	7·9	9·1

Annual Form No. XIV.—Deaths registered from *Tubercle including Tubercle of the Lung* by Wards during each month of the year 1917.

1	2		3												4			5			6
Present Divisions.	Wards.	Corresponding Old Divisions.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of Population.			Mean ratio per 1,000 during previous five years.
															Males.	Females.	Total.	Males.	Females.	Total.	
1	East Ward ...	1	4	1	2	5	4	3	4	5	8	5	2	3	22	24	46	2·3	2·3	2·3	1·2
2	Centre " ...		2	3	1	6	1	7	5	4	3	3	5	2	33	9	42	1·6	0·4	1·0	1·1
3	West " ...		1	1	1	3	..	5	15	...	1	2	1	...	21	9	30	2 7	1·2	2·0	0·8
4	East Ward ...	3	...	1	4	4	6	...	3	3	4	6	4	3	20	19	39	2·3	3·2	2·7	1·5
5	Centre " ...		2	3	4	2	1	2	4	3	5	5	6	3	24	16	40	2·4	1·8	2·1	0·8
6	West " ..		1	6	6	3	3	...	5	3	6	8	6	7	30	24	54	2·5	2·3	2·4	0·9
7	North Ward ...	2	13	7	8	5	5	3	9	7	5	6	2	12	27	55	82	1·5	2·9	2·2	1·9
8	Centre " ...		14	...	2	6	1	4	4	3	7	4	6	2	19	34	53	1·3	2·5	1·9	2·1
9	South " ..		6	6	12	11	7	5	8	7	9	8	4	8	42	49	91	3.7	5·0	4·3	2·4
10	4th Division ...	4	9	4	4	2	3	1	1	2	1	8	6	1	26	16	42	2·0	1·4	1·7	1·0
11	North Ward ..	5	8	9	10	6	6	1	9	6	6	8	2	5	41	35	76	1·9	1·7	1·8	1·5
12	Centre " ...		8	10	4	6	10	8	11	10	13	9	6	10	56	49	105	3·7	3·4	3·5	1·4
13	South " ...		3	2	3	1	2	3	2	...	2	3	3	7	12	19	31	1·0	1·7	1·3	1·2
14	North Ward ..	6	1	1	3	4	4	1	4	...	2	5	3	5	27	6	33	4·3	1·1	2·8	1·3
15	South " ...		2	3	1	4	1	2	...	3	3	2	...	2	11	12	23	1·4	1·6	1·5	1·1
16	North Ward ..	7	1	2	6	2	3	1	5	4	2	4	1	3	17	17	34	1·2	1·5	1·3	1·3
17	Centre " ..		7	10	6	16	5	10	5	6	5	3	9	6	45	43	88	2·3	2·3	2·3	1·6
18	South " ..		9	8	6	3	10	1	5	1	8	8	10	6	28	47	75	1 7	2·9	2·3	1·7
19	East Ward ...	8	7	2	8	6	2	5	6	5	4	2	5	4	29	27	56	1·7	1·6	1·6	0·9
20	West " ...		1	1	1	...	1	2	2	1	3	2	12	2	12	16	28	1·1	1·7	1·4	0·8
	Total...	...	99	80	92	95	75	64	107	73	97	101	93	91	542	525	1,067	2·0	2·1	2·1	1·4

Annual Form No. XV.—Deaths registered from *Respiratory Diseases excluding Tubercle of the Lung* by Wards during each month of the year 1917.

1	2		3												4			5			6
Present Divisions.	Wards.	Corresponding Old Divisions.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of Population.			Mean ratio per 1,000 during previous five years.
															Males.	Females.	Total.	Males.	Females.	Total.	
1	East Ward	1	6	5	7	2	4	6	13	5	8	10	8	5	39	40	79	4·0	3·8	3·9	2·6
2	Centre ,, ...		42	26	46	32	33	31	33	38	39	46	46	35	227	220	437	11·1	10·9	10·8	3·0
3	West ,, ...		7	8	12	6	7	13	1	12	10	12	11	14	63	50	113	8·1	6·8	7·5	3 2
4	East Ward	3	7	5	6	1	9	5	4	6	5	4	3	8	32	31	63	3·7	5·2	4·3	4·3
5	Centre ,, ...		13	4	8	7	12	10	11	8	12	12	11	11	64	55	119	6·3	6·1	6·2	5·7
6	West ,, ...		14	8	11	12	13	9	18	7	16	14	13	14	69	80	149	5·7	7·7	6·6	6·7
7	North Ward	2	16	22	23	25	17	20	32	26	31	21	29	24	137	149	246	7·4	8·0	7·7	5·0
8	Centre ,, ...		14	12	15	20	18	18	15	17	28	19	25	21	104	118	222	7·0	8·6	7·7	4·2
9	South ,, ...		15	23	12	14	22	19	20	25	18	32	23	21	117	127	244	10·4	13·1	11·7	8·0
10	4th Division	4	6	9	10	10	12	7	16	8	6	6	8	4	60	42	102	4·6	3·5	4·1	4·6
11	North Ward	5	20	21	20	19	19	19	22	19	12	22	17	8	112	106	218	5·3	5·2	5·3	8·4
12	Centre ,, ...		23	18	17	24	26	19	18	25	25	27	20	18	127	133	260	8 4	9·1	8·7	5·7
13	South ,, ...		4	9	9	...	7	3	4	15	5	10	8	9	42	41	83	3·4	3·6	3·5	3·5
14	North Ward	6	2	2	2	1	3	6	6	3	1	5	7	5	21	22	43	3·4	4·0	3·7	5·2
15	South ,, ...		5	5	5	8	3	9	9	2	2	3	2	4	29	28	57	3·8	3·7	3·8	5·1
16	North Ward	7	15	10	7	...	9	7	8	11	11	11	11	9	49	60	106	3·6	4·6	4·0	5·6
17	Centre ,, ...		18	18	20	17	24	14	17	21	18	22	18	20	105	122	227	5·3	6·4	5·9	6·8
18	South ,, ...		13	21	14	18	16	18	23	16	14	14	21	12	108	92	200	6·5	5·1	6·1	6·7
19	East Ward	8	15	11	13	13	16	18	27	21	13	13	14	18	109	83	191	6·4	4·8	5·6	3·5
20	West ,, ...		5	3	2	4	12	8	12	8	4	6	3	13	37	43	80	3·5	4·4	3·9	2·8
	Total ...	...	260	240	259	233	282	259	309	293	278	309	298	273	1,651	1,642	3,293	6·2	6·5	6·4	4·8

Annual Form No. XVI.—Deaths registered from *Injuries* by Wards during each month of the year 1917.

1	2		3												4			5			6
Present Divisions.	Wards.	Corresponding Old Divisions.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of Population.			Mean ratio per 1,000 during previous five years.
															Males.	Females.	Total.	Males.	Females.	Total.	
1	East Ward	1	2	...	1	...	3	1	...	2	...	...	...	...	7	2	9	0·7	0·2	0·4	0·8
2	Centre "	1	...	...	...	...	2	3	...	1	...	1	1	...	8	...	8	0·4	...	0·2	0·4
3	West "	1	...	...	...	1	...	1	...	...	...	...	1	...	2	1	3	0·3	0·1	0·2	0·4
4	East Ward	3	...	...	...	2	1	...	1	1	...	...	1	1	7	...	7	0·8	...	0·5	0·4
5	Centre "	3	...	3	2	...	...	...	...	1	...	...	...	...	4	2	6	0·4	0·2	0·3	0·2
6	West "	3	...	...	1	1	...	...	...	1	...	...	1	...	2	2	4	0·2	0·2	0·2	0·2
7	North Ward	2	...	3	...	1	1	...	...	...	3	...	...	2	4	6	10	0·2	0·3	0·3	0·2
8	Centre "	2	2	3	1	1	1	...	...	...	...	1	...	1	3	7	10	0·2	0·5	0·3	0·2
9	South "	2	4	...	4	2	1	...	1	2	2	1	2	...	13	6	19	1·2	0·6	0·9	0·7
10	4th Division	4	1	...	...	2	1	...	1	2	1	...	1	2	5	6	11	0·4	0·5	0·4	0·3
11	North Ward	5	1	2	1	4	1	2	2	...	...	2	2	1	11	7	18	0·5	0·3	0·4	0·2
12	Centre "	5	2	...	2	1	1	2	5	2	...	1	...	1	12	5	17	0·8	0·3	0·6	0·3
13	South "	5	1	...	2	...	1	...	...	...	...	1	...	4	6	3	9	0·5	0·3	0·4	0·3
14	North Ward	6	...	...	...	...	1	...	...	...	...	...	...	...	...	1	1	...	0·2	0·1	0·3
15	South "	6	...	...	...	...	1	...	...	1	...	...	1	1	...	4	4	...	0·5	0·3	0·2
16	North Ward	7	3	1	5	...	2	3	2	...	...	1	...	...	12	5	17	0·9	0·4	0·6	0·3
17	Centre "	7	3	1	...	1	...	...	1	...	1	2	2	1	8	4	12	0·4	0·2	0·3	0·3
18	South "	7	...	...	1	2	2	2	...	1	1	1	...	1	4	7	11	0·2	0·4	0·3	0·3
19	East Ward	8	3	1	...	...	2	1	2	1	3	1	3	1	10	10	20	0·6	0·6	0·6	0·3
20	West "	8	2	...	...	1	...	...	...	...	2	...	2	..	4	3	7	0·4	0·3	0·3	0·3
	Total...	...	24	14	20	19	21	15	15	15	13	14	17	16	122	81	203	0·5	0·3	0·4	0·3

Annual Form No. XVII.—Deaths registered from *Other Causes* by Wards during each month of the year 1917.

1	2		3												4			5			6
Present Divisions.	Wards.	Corresponding Old Divisions.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of Population.			Mean ratio per 1,000 during previous five years.
															Males.	Females.	Total.	Males.	Females.	Total.	
1	East Ward	1	38	32	33	26	16	22	27	30	28	39	41	34	188	178	366	19·2	16·9	18·0	16·6
2	Centre "		65	69	64	63	39	59	66	69	72	73	79	75	432	361	793	21·2	17·8	19·5	19·9
3	West "		10	14	19	21	14	19	14	10	15	18	18	15	105	82	187	13·4	11·2	12·4	10·9
4	East Ward	3	26	18	24	22	18	26	23	38	26	24	34	21	171	129	300	20·0	21·5	20·6	15·2
5	Centre "		18	21	19	24	22	20	29	25	17	43	36	45	142	177	319	14·0	19·6	16·6	11·4
6	West "		36	39	27	35	28	32	37	33	38	61	40	47	242	211	453	20·1	20·2	20·2	13·1
7	North Ward	2	47	39	64	55	54	54	67	63	64	72	70	77	352	374	726	19·1	20·0	19·6	17·8
8	Centre "		35	31	54	36	37	31	53	51	62	62	60	63	270	305	575	18·1	22·3	20·1	16·2
9	South "		40	28	32	34	26	38	44	42	34	33	31	34	237	179	416	21·1	18·4	19·9	18·6
10	4th Division	4	36	40	65	32	33	36	40	47	38	36	39	51	267	226	493	20·3	19·0	19·7	15 7
11	North Ward	5	72	80	57	50	67	45	62	72	50	56	66	77	364	390	754	17·2	19·1	18·2	15·6
12	Centre "		29	27	27	30	25	30	35	38	32	39	38	40	182	208	390	20·0	14·2	13·1	14·2
13	South "		21	25	29	47	24	28	36	38	39	37	42	39	188	217	405	15·1	19·2	17·1	16·9
14	North Ward	6	15	19	10	18	18	27	14	9	12	15	16	14	106	81	187	17·1	14·6	15·9	12·9
15	South "		14	14	19	10	18	16	17	20	24	29	23	20	118	106	224	15·5	14·0	14·8	13·2
16	North Ward	7	30	36	40	52	34	31	44	40	44	51	52	41	259	236	495	19·0	17·9	18·5	17·2
17	Centre "		64	72	65	63	67	61	69	63	68	64	62	75	375	418	793	19·1	22·0	20·5	20·1
18	South "		54	66	48	52	52	40	54	46	43	43	46	59	300	303	603	17·9	18·8	18·4	18·2
19	East Ward	8	47	36	47	41	46	32	64	57	55	50	51	77	322	281	603	18·9	16·2	17·6	15·9
20	West "		18	25	21	26	22	14	33	37	21	27	30	28	150	152	302	14·2	15·7	14·9	14·8
	Total...	...	715	731	764	737	660	661	828	828	782	872	874	932	4,770	4,614	9,384	17·9	18·3	18·1	16·5

Annual Form No. XVIII.—Comparing the Deaths from some of the *Principal Diseases* during the year with the Death during the preceeding four years.

Years.	Cholera.		Small-pox.		Measles.		Plague.		Malaria.		Enteric Fever.		Other Fevers.		Dysentery and Diarrhœa.		Tubercle excluding Tubercle of lung.		Respiratory System. Phthisis.		Respiratory System. Other diseases of the respiratory system.		Injury.		All other causes.		Total Deaths.	
	Deaths.	Ratio per 1,000.	Deaths.	Ratio per 1,000.	Deaths.	Ratio per 1,000.	Deaths.	Ratio per 1,00C.	Deaths.	Ratio per 1,000.	Deaths.	Ratio per 1,000.	Deaths.	Ratio per 1,000.	Deaths.	Ratio per 1,000.	Deaths.	Ratio per 1,000.	Deaths.	Ratio per 1,000.	Deaths.	Ratio per 1,000.	Deaths.	Ratio per 1,000.	Deaths.	Ratio per 1,000.	Deaths.	Ratio per 1,060.
1913	29	0·05	34	0·06	157	0·3	3	0·005	2,788	5·4	51	0·1	992	1·9	5,193	10·0	36	0·07	445	0·9	2,219	4·2	170	0·3	8,558	16·5	20,675	39·9
1914	1,557	3·4	66	0·1	87	0·2	2	0·004	2,658	5·1	66	0·1	720	1·4	5,508	10·6	35	0·07	703	1·4	3,024	5·8	149	0·3	9,399	18·1	24,174	46·6
1915	35	0·07	92	0·2	81	0·2	...	...	1,686	3·3	75	0·1	569	1·1	4,208	8·1	48	0·09	711	1·4	2,303	4·4	178	0·3	8,702	16·8	18,688	36·0
1916	30	0·1	476	0·9	282	0·5	11	0·02	763	1·5	49	0·09	479	0·9	3,664	7·1	77	0·1	799	1·5	2,851	5·5	145	0·3	8,246	15·9	17,872	34·5
Mean of the last four years.	413	0·8	167	0·3	152	0·3	4	0·007	1,974	3·8	60	0·1	690	1·3	4,643	9·0	49	0·1	664	1·3	2,599	5·0	160	3·1	8,726	16·8	20,352	39·2
1917	78	0·2	195	0·4	79	0·2	6	0·01	859	1·7	47	0·09	575	1·1	4,131	7·9	91	0·2	976	1·9	3,293	6·4	203	0·4	9,384	18·1	19,917	38·4

Annual Form No. XIX showing a Complete Classification of Diseases arranged in the order adopted in the Nomenclature of Diseases.

	No. in the Nomenclature of Diseases.	CAUSES OF DEATH.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
Infective Diseases.	4	Beri-beri	...	...	...	...	...	...	...	...	...	...	...	2	2
	6	Chicken-pox	1	4	...	1	1	...	1	1	...	...	1	...	10
	7	Cholera	1	...	...	3	1	2	37	26	5	1	1	1	78
	10	Diphtheria	..	...	1	...	...	...	...	1	...	...	...	...	2
	11	Dysentery	151	176	177	155	137	139	160	167	135	151	111	141	1,800
	13	Enteric Fever	2	3	5	4	2	4	6	7	5	2	6	1	47
	14	Enteritis	218	211	203	193	222	191	271	199	141	159	142	181	2,331
	15	Erysipelas	...	...	...	2	2	1	1	1	1	...	...	1	9
	22	Kala-Azar	5	.....	3	4	3	2	...	1	1	...	2	2	23
	23	Leprosy	12	15	8	14	4	8	10	9	14	9	15	18	136
	25	Malarial Fever	81	60	47	51	82	75	84	67	36	63	55	71	772
		" " with Enlargement of Spleen	7	7	4	2	12	6	4	7	6	6	4	1	66
		" " " Congestion of Brain	2	...	...	1	...	...	...	...	2	2	...	2	9
		" " (*d*) Cachexia	2	2	1	...	...	...	...	2	1	1	2	1	12
	26	Measles	5	10	24	12	11	4	2	6	2	2	1	...	79
	28	Mumps	...	...	...	...	1	...	...	1	...	...	...	...	2
	31	Plague	2	2	1	...	...	...	...	...	1	...	...	...	6
	32	Pneumonia	63	62	61	65	66	57	54	48	50	68	68	63	725
	34	Pyrexia of uncertain origin	19	22	27	21	26	29	38	41	27	36	32	37	355
	35	Hydrophobia	...	...	...	...	...	...	1	...	...	...	...	...	1

	No. in the Nomenclature of Diseases.	CAUSES OF DEATH.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
Infective Diseases—(*contd*).	37	Rheumatism	7	6	7	9	8	5	6	9	14	4	10	3	88
	39	Septicæmia	5	3	3	...	4	3	3	2	6	5	6	6	46
		„ Puerperal	11	16	10	14	8	9	10	11	12	13	14	4	132
		„ Septic Fever	1	1	3	...	2	1	...	1	2	2	...	...	13
		„ Peritonitis	1	...	1	...	...	1	1	..	...	2	...	1	7
		„ Ankylosis	...	1	...	1	...	...	...	...	1	1	...	1	5
	41	Small-pox	16	18	43	37	28	17	13	6	4	3	2	8	195
	42	Syphilis	5	6	4	6	7	3	4	6	8	6	3	5	63
	43	Tetanus	2	2	3	4	3	2	4	5	2	2	5	4	38
	44	Tubercle excluding Tubercle of Lung	6	5	5	16	11	7	8	7	4	11	4	7	91
	47	Whooping-Cough	1	3	8	7	10	6	12	19	10	7	7	4	94
General Diseases.	61	Anæmia	6	9	13	8	5	7	15	19	14	21	11	12	140
	63	„ Pernicious	...	...	...	1	...	...	...	1	...	...	...	1	3
		„ and Dropsy	10	15	13	12	10	14	12	16	14	11	13	11	151
	66	Diabetes	4	3	8	5	6	7	3	3	4	2	3	5	53
		Diabetic Corbuncle	3	2	2	5	3	3	4	3	4	6	3	4	42
		„ Coma	1	...	1	...	...	1	2	4	2	1	3	1	16
		„ Gangrene	...	1	...	1	...	...	1	...	...	...	...	...	3
	76	Rickets	2	1	...	2	...	4	3	6	4	1	1	3	27

Certain Morbid conditions Incident to various parts.	80	Tumour in the Abdomen	1	...	1	...	...	1	1	1	...	2	3	1	11
		Sarcoma	...	...	...	...	...	1	...	...	...	1	...	1	3
		Cancer	5	8	6	8	3	4	6	5	8	12	13	11	89
		Ulcer	2	3	4	2	4	3	6	3	2	8	7	6	50
		Metals and their Salts.													
		2 Arsenic Poison	...	...	...	...	...	1	...	...	...	...	...	...	1
		Vegetable Poisons.													
		37 Opium	...	...	...	...	1	...	...	...	...	...	...	1	2
		Animal Poisons.													
		1 Venoms of:—(*b*) Scorpians Sting	...	...	1	...	1	1	...	...	...	...	...	...	3
Diseases of the Nervous System.		Diseases of the Spinal Cord and Membranes.													
		Membranes.													
	88	Meningitis	3	1	...	1	2	4	2	1	4	4	1	...	23
		Diseases of the Brain and its Membranes.													
		Brain.													
	101	Cerebral Hæmorrhage	3	2	5	7	2	4	3	1	1	2	2	2	34
	109	Apoplexy	8	8	8	5	1	3	2	6	3	2	8	2	56
	110	Paralysis	16	10	11	12	6	9	8	9	9	11	13	16	130
		" (*a*) Paraplegia , ...	2	...	1	...	4	...	2	1	...	1	...	...	11
		" (*b*) Hemiplegia "	16	18	20	16	18	19	18	19	20	24	26	26	240
	123	Eclampsia (Convulsions)	224	173	167	155	158	164	180	198	153	252	211	204	2239
		" Puerperal	3	6	10	7	4	3	6	11	12	10	4	5	81

	No. in the Nomenclature of Diseases.	CAUSES OF DEATH.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
Diseases of the Neverious system (*Contd*).	124	Epilepsy	2	4	4	1	...	1	3	1	...	...	2	3	21
	131	Neuralgia	1	2	...		2	1	...	1	1	1	...	1	10
	133	Hysteria	...	...	1	...	1	1	...	1	1	2	...	1	8
	143	Neurasthenia	1	...	1	...	...	1	...	...	...	1	...	1	5
		II *Disorders of Function.*													
	145	Mania	...	...	...	...	1	1	...	1	...	1	...	1	5
	146	Melancholia	...	...	...	...	2	...	...	...	...	...	...	1	3
Diseases of the Circulatory System.		DISEASES OF THE HEART.													
		Diseases of the Pericardium.													
	286	Pericarditis	1	...	...	...	1	1	...	...	...	1	...	1	5
		Diseases of the Eudocardium.													
	292	Eudocarditis	4	6	12	16	16	10	28	11	23	3	13	25	167
	293	Valoular Disease	6	6	7	15	8	8	9	11	7	7	8	9	101
		Cardiac Failure	33	31	25	31	22	26	29	23	29	31	25	32	337
		Cardiac Dropsy	7	12	13	9	11	9	12	9	8	10	8	11	119
		Diseases of the Heart (not specified)	13	24	21	15	19	14	20	30	20	20	23	15	234
		Disease of the Myocardium.													
	294	Myocarditis	...	...	...	...	...	...	...	...	...	...	1	...	1
	295	Degeneration	...	...	...	...	...	...	1	...	...	...	...	...	1

Diseases of the Circulatary System—(*contd*).	298	Dilatation of the Heart	...	1	1	2	...	1	1	1	...	1	...	...	8
	301	Cyanosis of the Heart	1	2	6	5	7	14	4	5	9	8	5	16	82
	304	Syncope	...	...	1	...	...	1	...	...	...	...	...	...	2
		Diseases of the Blood Vessels.													
	316	Aneurysm of Aorta	...	...	...	1	...	...	...	1	...	...	...	1	3
	322	(1) Thrombosis of Arteries	...	...	...	1	...	...	...	1	...	1	...	1	4
		Diseases of the Veins.													
	325	Phlegmasia Dolens	...	...	...	...	...	...	1	...	...	...	...	1	2
		Diseases of the Respiratory System not strictly Local.													
Diseases of the Respiratory System.	338	Asthma	14	14	15	14	7	13	11	6	6	10	13	3	126
		Diseases of the Trachea and Bronchi.													
	404	Bronchitis (acute)	23	14	22	8	11	12	15	20	20	25	22	27	219
		,, (chronic)	24	20	26	22	26	20	25	18	19	22	20	21	263
		,, (*a*) Catarrhal	4	...	8	...	2	10	10	11	2	5	5	11	63
		Diseases of the Lung.													
	410	Congestion of the Lung	...	...	2	...	...	...	...	...	...	...	...	...	2
	411	Hæmoptysis	...	...	...	...	...	...	...	1	...	...	...	1	2
	413	Broncho-Pneumonia	125	122	119	113	157	140	182	167	171	169	155	141	1,761
	419	Phthisis	93	75	87	79	64	57	99	66	93	90	89	84	976
	422	Atelectasis	5	....	2	3	3	...	...	1	...	1	7	1	23
		Diseases of the Pleura.													
	425	Pleurisy	...	4	1	1	...	1	...	2	...	2	1	1	13
	426	Empyema	1	1	...	...	...	...	...	...	...	...	...	...	2

	No. in the Nomenclature of Diseases.	CAUSES OF DEATH.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
Diseases of Digestive System—(*contd.*)		*Diseases of the Mouth.*													
	436	Stomatitis	...	1	...	...	...	...	...	1	...	3	...	1	6
	438	Cancrumoris	...	1	1	...	...	...	...	1	..	1	1	2	7
		Diseases of the Teeth, Alveoli, and Gums.													
	440	Disorders of Dention Diarrhœa	4	4	6	4	7	8	16	3	5	7	4	8	76
		Diseases of the Palate aud Fances.													
		Diseases of the Stomach.													
	489	Gastritis Acute	4	6	5	5	3	3	4	3	5	5	5	5	53
		„ Chronic...	...	2	2	3	2	...	1	...	1	2	..	3	16
	491	Gaugrene	...	...	1	1	...	...	...	...	...	...	...	...	2
	499	Dyspepsia	3	15	10	20	4	8	12	16	26	16	15	17	162
		Diseases of the Intestines.													
	515	Inflamation—													
		(2) Appendicitis	...	...	2	...	1	...	1	1	...	...	...	...	5
		(3) Colitis	1	...	...	...	...	...	...	...	...	...	...	...	1
		„ Gastro—Enteritis	4	3	6	7	5	4	9	6	4	7	5	8	68
	526	Sprue	...	...	2	...	...	...	...	1	...	...	3	...	6
	528	Hernia	2	2	3	1	4	4	2	4	3	4	1	4	34
		„ Strangulated	5	5	6	...	3	1	7	3	4	1	4	5	44
	530	Intussusception	1	...	...	1	...	...	...	...	...	...	2	...	4

Diseases of the Digestive System—(*contd*).	536	Obstruction of Bowels	6	9	15	13	10	22	28	28	27	27	34	20	239
	539	Intestinal catarrh	2	1	2	3	2	1	4	3	2	3	3	4	30
	544	Colic	...	2	...	...	...	...	...	...	...	1	...	1	4
		Diseases of the Rectum and Anus.													
	550	Fistula of Anus	1	...	...	...	1	...	...	1	...	2	1	...	6
	556	Piles	1	1	3	...	...	1	2	1	...	1	3	1	14
	558	Stricture of the Rectum	...	...	1	...	...	...	...	...	...	...	...	...	1
		Diseases of the Liver.													
	568	Hepatitis	2	3	2	1	3	1	2	2	3	4	3	1	27
		,, (*b*) Cirrhosis of Liver	3	5	9	10	4	7	7	2	10	1	7	8	73
		Enlargement of Liver	3	4	2	1	...	...	1	1	1	1	...	2	16
	569	Perihepatetis	...	...	...	1	1	...	...	...	...	1	...	...	3
	570	Acute Yellow Atrophy	...	...	1	...	...	...	...	...	...	...	...	1	2
	575	Jaundice	3	4	3	2	2	3	5	4	9	8	7	2	52
		Diseases of the Peritoneum.													
	588	Peritonitis	3	3	5	4	5	6	6	12	8	9	4	10	75
	590	Ascites	14	12	22	11	12	15	21	26	20	22	28	23	226
Diseases of the Lymphatic System.		*Diseases of the Spleen.*													
	592	Enlargement of the Spleen	1	...	...	8	...	...	...	1	...	2	...	1	
		Diseases of the Lymphatic Glands.													
	615	Filariasis	1	...	2	1	...	...	...	...	...	1	1	1	7
	618	Elephantiasis of the Scrotum	1	...	1	1	1	...	2	...	2	2	1	4	15
		Elephantiasis of the Leg	...	...	...	1	1	...	1	2	...	1	2	2	10

	No. in the Nomenclature of Diseases.	CAUSES OF DEATH.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November	December.	TOTAL.
		Diseases of the Adrenals (Supra Renals).													
Diseases of the Adrenals (Supra-Renals.	643	Hæmorrhage	1	2	1	3	2	2	2	5	2	3	2	4	29
		Diseases of the Kidney.													
Diseases of the Urinary System—(*contd.*)	651	Nephritis Acute	2	5	1		4	1	3	5	2	2	10	8	46
		Renal Dropsy	5	4	8	3	7	5	2	5	4	2	4	1	50
	652	Bright's Disease	8	7	9	9	7	6	6	5	10	8	9	13	97
		Diseases of the Kidney.													
	655	Pyelitis	...	1	..	...	...	1	...	...	...	...	...	...	2
		Diseases of Ureters.													
	674	Urinary Fistula	...	...	...	1	...	...	1	...	1	...	...	...	3
		Diseases of the Bladder.													
	676	Cystitis	1	...	2	...	1	...	...	...	...	...	...	...	4
	685	Rupture (Bladder)	...	...	..	...	...	...	...	...	...	1	...	1	2
	687	Stone in the Bladder	...	...	...	1	...	...	...	...	...	...	...	...	1
	690	Incontinence of urine	...	...	...	...	1	...	...	...	...	...	...	...	1
		Urinary Disorders.													
	692	Suppression of Urine	...	...	...	1	...	...	1	...	...	1	...	...	3
	697	Albuminuria	...	3	1	2	...	...	2	...	...	3	2	3	1
		Uræmia	...	...	...	1	...	...	...	...	...	...	1	1	3
		,, Coma	...	...	...	..	...	...	1	...	...	...	...	1	2

Diseases of the Generative system.

	DISEASES OF THE MALE ORGANS OF GENERATION.													
	Diseases of the Urethra.													
709	Abscess	...	...	1	...	...	...	...	...	...	...	...	...	1
712	Stricture of Urethra	...	...	1	1	...	1	1	1	1	...	1	...	7
715	Extravasation of Urine	...	...	...	...	...	2	...	...	2	...	...	...	4
	Diseases of the Prostate.													
720	Hypertrophy	...	...	...	...	...	...	...	...	...	...	...	1	1
	Diseases of the Penis.													
732	Ulcer of Penis	...	...	...	...	...	...	...	...	...	1	...	...	1
741	Cellulitis Srcotum	...	2	3	1	1	2	2	3	...	3	4	1	22
742	Sloughing Scrotum	...	1	...	...	1	...	...	...	1	...	...	...	3
	Diseases of the Tunica Vaginalis.													
754	Hydrocele	...	...	...	...	1	1	...	...	...	...	...	...	2
	Diseases of the Testicle.													
757	Inflamation —(1) Orchitis	...	1	...	...	...	...	...	...	...	...	...	...	1
	DISEASES OF THE FEMALE ORGANS OF GENERATION.													
	Diseases of the uterine Ligaments, etc.													
783	Inflamation (*b*) Pelvic cellulitis	...	...	...	...	...	...	...	1	...	...	...	...	1
	Diseases of the uterus including the cervix.													
785	Metritis	...	...	...	...	...	...	...	...	...	...	...	1	1
787	Ulcer (Uterus)	1	1	1	2	...	...	2	3	1	1	...	1	13
797	Rupture of uterus	1	...	...	...	1	...	1	...	...	...	...	2	5
	Functional and Symtomatic Disorders of the Female Organs of Generation.													
820	Dysmenorrhoea	...	...	...	...	...	...	...	1	1	...	...	...	2
821	Menorrhagia	...	...	...	...	...	...	...	1	...	...	...	...	1

	No. in the Nomen-clature of Diseases.	CAUSES OF DEATH.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Affections connected with Pregnancy.													
Affections connected with Pregnancy.	834	Abortion	2	...	1	1	1	...	...	2	...	...	...	...	7
		Affections connected with Parturition.													
Affections connected with Parturition.	842	Haemorrhage	...	...	...	...	1	...	...	...	...	...	...	...	1
		(a) Unavoidable from Placenta Praevia	1	...	...	1	...	...	...	...	1	...	1	...	4
	852	Premature Birth	102	81	92	86	101	80	104	93	91	100	120	142	1192
		Difficult Labour	...	1	...	...	...	...	...	1	...	...	2	3	7
		Affections connected on Parturition.													
Affections connected on Parturition.	853	Post-partum Hæmorrhage	...	...	2	1	...	...	2	3	...	...	1	...	9
	855	Puerperal Causes—													
		,, Sapræmia	...	...	...	1	...	...	...	1	...	1	...	2	5
		,, Tetanus	...	1	1	2	...	...	2	1	1	2	2	1	13
		,, Pyaemia	2	2	1	4	2	1	4	2	2	1	1	4	26
	866	Puerperal Insanity	...	...	1	...	...	...	...	...	...	...	2	...	3
	870	Sudden death after delivery	2	1	...	1	...	1	...	...	...	...	...	2	7
		Diseases of the connective Tissue.													
Diseases of the connective Tissue.	953	Abcess	4	9	7	11	8	7	13	13	7	11	8	10	108
		Diseases of the Skin.													
Diseases of the Skin.	962	Eczema	...	...	...	...	...	...	...	...	...	...	...	1	1
	965	Boil	...	...	...	...	...	...	1	...	1	...	1	1	4
	966	Carbuncle	2	3	2	2	3	1	2	4	4	1	2	...	26
	972	Pemphigus	...	...	...	...	...	...	...	...	1	...	...	...	1

		General Injuries.													
General Injuries.	1025	Effects of Heat (*a*) Burn and Scalds	4	4	4	1	...	3	1	3	2	...	4	3	29
	1030	Suffocation	14	9	7	9	6	5	4	11	8	13	11	3	100
		,, by Drowning, Accident	8	4	7	15	4	4	5	4	7	4	6	5	78
		,, ,, Sucdial	...	...	2	...	...	1	...	1	...	...	1	2	7
		,, by Judcial Hanging	...	...	...	...	...	...	...	...	...	...	...	2	2
	1031	Starvation	6	9	6	6	6	...	8	3	4	2	2	...	52
	1033	Shock	...	...	1	1	1	1	1	...	2	2	1	...	10
		,, After Operation	1	1	...	...	...	2	1	...	...	1	...	...	6
		Local Injuries.													
Local Injuries.	1092	Fracture of the Skull	4	...	5	2	4	2	3	2	...	1	...	1	24
	1096	Concussion of Brain	1	...	1	1	1	...	1	...	...	...	...	...	5
		Injuries of the Chest.													
	1145	Fracture Ribs	...	...	...	1	...	...	...	...	...	...	...	...	1
	1154	Rupture of Lung	...	...	...	...	...	1	...	...	...	...	...	...	1
	1156	Multiple Injuries...	...	5	1	1	3	1	1	2	2	1	2	1	20
		Injuries of the Back (including the whole Vertebral Column).													
	1160	Fracture of Spine	...	...	...	...	...	...	...	...	...	...	...	1	1
		Injuries of the Abdomen.													
	1170	Gun-shot wound	...	...	...	...	...	...	...	...	...	...	...	1	1
		Ill-defined and non-specified causes.													
		Debility	68	93	92	94	82	86	99	93	97	98	89	101	1092
		Old age	14	26	21	19	15	20	25	22	16	17	21	23	239
		Natural causes	2	...	...	...	...	...	...	4	...	1	...	2	9
		Unknown	...	...	1	...	...	1	...	...	...	...	...	1	8

HEALTH DEPARTMENT.

Statement of Notices issued and disposed of during the year 1917.

1	2	3	4	5	6		7	8
Section or By-law.	Substance of Section or By-law.	No. pending on 1-1-1917.	No. issued during the year.	Total.	No. complied with		No. cancelled or otherwise disposed of.	No. pending on 31-12-1917.
					Voluntarily.	By prosecution.		
218	Constructing and connecting a house drain with a public drain	11	44	55	9	...	26	20
221	Maintenance of troughs and pipes for catching and carrying the water from the roof and other parts of a building	10	65	75	43	14	1	17
224	Provision of latrines by owner or occupier	99	182	281	95	64	57	65
227	Control of the Corporation over house drains, privies and cesspools	76	46	122	64	...	55	3
300	Prohibition against accumulation of filth and allowing of sewage to flow in streets	15	240	255	164	26	31	34
301	Cleansing of insanitary private tanks or wells used for drinking	...	4	4	1	1	2	...
302	Do. fencing, repairing or filling up of insanitary tanks, wells, etc. ...	32	104	136	52	10	58	16
303	Do. stagnant pool, ditch, etc.	18	149	167	77	29	41	20
305	Do. of untenanted buildings or lands	10	87	97	46	22	8	21
306	Removal of filth or noxious vegetation	13	394	407	304	35	15	53
307	Limewashing and cleansing of buildings	70	874	944	632	185	10	117
308	To set right insanitary buildings	988	4,309	5,297	1,908	1,169	875	1,345
309	Rendering buildings fit for human habitation	90	337	427	76	84	98	169
310	Abatement of overcrowding in dwelling houses or places	...	10	10	3	7	...	...
315	Control over stables, cattle sheds and cow houses	132	552	684	257	114	141	172
316	Discontinuance of the use of a building as a stable, etc.	16	605	621	153	200	101	167
366	Removal of patients suffering from dangerous diseases to hospitals	...	40	40	30	7	3	...
367	Disinfection of buildings and articles in infected premises	1	330	331	291	35	1	4
	By-laws for the regulation of lodging houses	14	105	119	65	14	17	23
	Total ...	1,595	8,477	10,072	4,270	2,016	1,540	2,246

TABLE A.

Comparative Statement of deaths from some of the Principal diseases during the past 11 years.

Years.	No, of Live-births registered excluding still births.	Birth-rate *per mille.*	No. of deaths registered excluding still births.	Death rate *per mille.*	Small-pox.		Malaria.		Other Fevers.		Other infectious diseases.		Plague.		Diarrhoea and Dysentery.		Respiratory diseases.		Infantile Morality under 1 year.		Deaths from children between 1 to 5 years.		Still Births.
					Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.
1906 ...	18608	36·5	23749	46·6	620	1·2	2928	5·7	1149	2·3	986	1·9	56	0·1	5704	11·1	1490	2·9	6350	341·2	4009	88·4	736
1907 ..	19808	38·8	20638	40·5	49	0·09	2640	5·1	1688	3·3	960	1·9	3	0·005	4466	8·7	1260	2·5	5364	270·7	3467	76·5	845
1908 ...	19980	39·2	22285	43 7	13	0·02	2756	5·4	1981	3·9	1621	3·2	2	0·004	4225	8·2	1508	3·0	5922	296·3	3196	70·5	730
1909 ...	18981	37.2	19354	37·9	68	0·1	2514	4·9	1900	3·7	484	1·0	3	0·005	3701	7·2	1648	3·2	5600	295·0	2605	57·5	743
1910 ..	19340	37·9	20312	39·8	116	0·2	2376	4·6	2742	5·4	1066	2·1	5	0·009	3635	7·1	2173	4·3	5687	294·1	3059	67·5	673
1911 ...	19735	38·3	21771	42·0	480	0·9	2884	5·6	1163	2·2	1482	2·9	3	0·005	4854	9·4	3011	5·8	6027	305·4	3233	73·7	665
1912 ...	20099	38 8	20132	38·8	106	0·2	2934	5·7	999	1·9	927	1·8	1	0 002	4897	9·4	2671	5·2	5628	280·4	2951	67·2	674
1913 ...	19470	37·5	20675	39·9	34	0·06	2788	5·4	1043	2·0	1232	2·4	3	0·005	5193	10·0	2700	5·2	5713	293·4	3296	75·1	642
1914 ...	12241	35·5	24174	46·6	66	0·1	2658	5·1	786	1·5	2306	4·4	2	0 004	5508	10·6	3762	7·3	5635	308·9	3740	85·2	606
1915 ..	18331	35·3	18688	36·0	92	0·2	1686	3·3	644	1·2	555	1·1	...	...	4208	8·1	3062	5·9	5244	286·1	2748	62·6	650
1916 ...	21675	41·8	17872	34·5	476	0·9	763	1·5	528	1·0	443	0·9	11	0.02	3664	7·1	3727	7·2	5746	265·1	2742	62·5	975
1917 ...	23296	44·9	19917	38·4	195	0·4	859	1·7	575	1·1	654	1·3	6	0·1	4131	7·9	4360	8·4	6460	277·3	2945	67·1	1077

TABLE. B.

Years.	1st Quarter. January to March.	2nd Quarter. April to June.	3rd Quarter. July to September.	4th Quarter. October to Deeember.	Total.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*
1912	2·83	1·78	8·97	33·11	46·69
1913	0·14	2·29	6·84	55·78	65·05
1914	1·06	2·70	18·85	34·02	56·63
1915	10·15	2·19	20·43	23·84	56·61
1916	0·04	4·27	8·78	33·38	46·47
1917	0·44	6·15	15·90	28·57	51·06

TABLE. C.

Table of birth-rates for the different races of the City for 1915, 1916 and 1917.

Race or caste.	Population by the census of 1911.	Birth-rate for 1915.	Birth-rate for 1916.	Birth-rate for 1917.
Europeans ...	4,187	20·1	23·8	23·2
Anglo-Indians ...	10,332	34·4	36·4	32·4
Indian Christians ...	27,293	35·2	39·2	39·5
Hindus ...	4,15,910	35·5	42·1	45·1
Muhammadans ...	59,160	36·5	44·0	50·8
Others ...	1,769	0·6	1·1	4·5
Total ...	5,18,660	35·3	41·8	44·9

TABLE D.

Table showing the total number of births of the principal Sub-Divisions of the Hindu community and percentage calculated on the population of each race for the years 1915, 1916 and 1917.

Principal Sub-divisions of the Hindu community.	Population (Census 1911).	1915.		1916.		1917.	
		Total Births.	Birth-rate.	Total Births.	Birth-rate.	Total Births.	Birth-rate.
Brahmin	32,727	854	2·61	924	2·82	820	2·51
Chetty	36,414	1,319	3·62	1,245	3·42	1,192	3·27
Vellalah or Mudaliar ...	66,551	2,376	3·57	2,614	3·93	2,473	3·72
Balijah or Naidu ...	47,811	1,474	3·08	1,672	3·50	1,562	3·27
Vanniah or Naicker ...	50,209	1,559	3·10	2,428	4·84	2,498	4·98
Pariah	59,651	2,167	3·63	2,784	4·67	2,764	4·63
Patnavar	9,799	624	6·37	442	4·51	320	3·27
Yadaval or Idayar ...	14,308	815	5·69	611	4·27	581	4·06
Visva Brahmin or Kammalars.	15,626	897	5·74	708	4·53	662	4·24

TABLE E.

Total No. of Births and their rates by months during the years, 1915, 1916 and 1917.

Months.	1915.		1916.		1917.	
	Total No. of Births.	Birth-rates.	Total No. of Births.	Birth-rates.	Total No. of Births.	Birth-rates.
January	1,472	34·2	1,506	34·8	1,884	43·6
February ...	1,298	30·0	1,214	28·1	1,560	36·1
March	1,558	36·0	1,359	31·4	1,948	45·1
April	1,315	30·4	1,623	37·6	2,109	48·8
May	1,344	31·1	1,682	38·9	1,971	45·6
June	1,593	36·9	1,830	42·3	1,836	40·6
July	1,376	31·8	2,014	46·6	2,084	48·2
August	1,423	32·9	2,148	49·7	2,170	50·2
September ...	1,997	46·2	2,133	49·4	2,171	50·2
October	1,648	38·1	2,234	51·7	2,009	46·5
November ...	1,489	34·5	1,960	45·3	1,803	41·1
December ...	1,813	41·9	1,972	45·6	1,751	40·5
Total ...	18,331	35·3	21,675	41·8	23,296	44·9

TABLE F.

Total number of deaths and their rates by months during the years, 1915, 1916 and 1917.

Months.	1915.		1916.		1917.	
	Total No. of Deaths.	Death-rates.	Total No. of Deaths.	Death-rates.	Total No. of Deaths	Death-rates.
January	1,744	40·4	1,737	40·1	1,614	37·3
February ...	1,520	35·2	1,761	40·7	1,592	36·8
March	1,927	44·6	1,754	40·6	1,683	38·9
April	1,379	31·9	1,544	35·7	1,587	36·7
May	1,366	31·6	1,487	34·4	1,574	31·4
June	1,465	33·9	1,226	28·4	1,489	34·4
July	1,381	32·0	1,390	32·2	1,886	43·7
August	1,626	37·6	1,539	35·6	1,762	40·8
September ...	1,938	44·8	1,338	31·0	1,554	36·0
October	1,362	31·5	1,305	30·2	1,751	40·5
November ...	1,221	28·2	1,309	30·3	1,654	38·3
December ...	1,759	40·7	1,482	34·3	1,771	41·0
Total ...	18,688	36·0	17,872	34·5	19,917	38·4

TABLE G.

Table of death-rates for the different races in the City for 1915, 1916 and 1917.

Race or Caste.	Population (Census 1917).	1915.		1916.		1917.	
		Total No. of Deaths	Death-rate *per mille.*	Total No. of Deaths	Death-rate *per mille.*	Total No. of Deaths	Death-rate *per mille.*
Europeans ...	4,187	72	17·2	82	19·6	58	13·9
Anglo-Indians ...	10,332	282	27·3	212	20·5	240	23·2
Indian Christians.	27,293	816	29·9	720	26·4	836	30·6
Hindus ...	4,15,910	14,958	36·0	14,501	34·9	16,202	39·0
Muhammadans ...	59,169	2,560	43·3	2,352	39·8	2,573	43·5
Others ...	1,769	...	...	5	2·8	8	4·5
Total ...	5,18,660	18,688	36·0	17,872	34·5	19,917	38·4

TABLE H.

The following Table shows the death-rates among the principal sections of the Hindu Community.

Sect.	Population (Census 1911).	1915.		1916.		1917.	
		Total No. of Deaths.	Ratio *per mille.*	Total No. of Deaths.	Ratio *per mille.*	Total No. of Deaths.	Ratio *per mille.*
Brahmin	32,727	792	24·2	828	25·3	958	29·3
Chetty	36,414	1,087	29·8	1,072	29·4	1,205	33·1
Vellalah or Mudaliar ...	66,551	2,185	32·8	2,031	30·5	2,413	36·3
Balijah or Naidu	47,811	1,519	31·8	1,445	30·0	1,604	33·5
Vanniah or Naicker ...	50,209	1,994	39·7	2,025	40·3	2,094	41·7
Pariah	59,651	2,267	38·0	2,345	39·3	2,378	39·8
Patnawar	9,799	428	43·7	379	38·6	437	46·6
Yadaval or Idayar ...	14,308	522	36·5	462	32·3	567	39·6
Visva Brahmin or Kammalar ...	15,626	633	40·5	568	36·3	654	41·9

TABLE. I.

Ratio of deaths among children under one year per 1,000 Live births registered in each Division during years 1915, 1916 and 1917.

Municipal Divisions.	Ratio of Deaths		
	1917.	1916.	1915.
1	298·9	272·5	291·0
2	309·9	258·6	328·1
3	283·5	259·6	407·1
4	361·8	263·8	277·3
5	296·0	261·1	272·0
6	336·2	268·6	270·8
7	304·9	263·2	344·0
8	329·5	289·0	341·3
9	336·0	265·2	331·6
10	287·1	274·6	301·9
11	271·0	251·3	269·8
12	241·7	277·1	265·9
13	210·7	216·7	213·9
14	233·0	231·3	220·5
15	215·2	223·3	237·2
16	239·7	257·2	277·7
17	288·2	267·5	279·8
18	25[illegible]·5	296·9	309·2
19	239·4	293·4	253·8
20	270·0	274·8	236·4
Total ...	277·3	265·1	286·1

TABLE J.

Table of precentages of infant deaths from principal causes in the year 1917.

Age periods.	Small-pox.		Measles.		Malaria.		Ague and Remittent fever.		Diarrhœa and Dysentery.		Premature births.		Debility.		Nervous system.		Respira'ory system.		All other causes.		Total.	
	Total.	Ratio.	Total.	Ratio.	Total.	Ratio.	Total.	Ratio.	Total.	Ratio.	Total.	Ratio.	Total.	Ratio.	Total.	Ratio.	Total.	Ratio.	Total.	Ratio.	Total.	Ratio.
Under 7 days	...	...	1	0·05	...	...	1	0·05	10	0·54	1062	57·72	111	6·03	391	21·20	33	1·79	231	12·55	1840	28·48
7 days and under 1 month ...	...	...	1	0·10	2	0·19	3	0·29	77	7·45	119	11·32	98	9·48	509	49·23	101	0·97	124	11·98	1034	16·01
1 month and under 3 months...	3	0·35	5	0·49	5	0·49	10	1·17	184	21·55	9	1·05	37	4·33	320	37·47	195	22·83	86	10·07	854	13·22
3 months and under 6 months.	12	1·14	15	1·42	9	0·85	14	1·32	314	29·72	1	0·09	12	1·14	277	26·21	299	28·19	104	9·84	1057	16·36
6 months and under 9 months.	19	2·19	13	1·50	7	0·81	19	2·19	328	37·74	...	...	6	0·69	113	13·00	278	31·99	86	9·90	869	13·45
9 months and under 12 months	11	1·36	7	0·87	5	0·62	21	2·61	335	41·56	1	0·12	6	0·72	88	10·92	247	30·65	85	10·55	806	12·48
Total ...	45	0·70	42	0·65	28	0·43	68	1·05	1248	19 32	1192	18·45	270	4·18	1698	26·28	1153	17·85	716	11·08	64[illegible]0	

TABLE K.

Table of Infant Mortality by Months in the year 1917.

Months.	Debility.	Nervous Diseases.	Respiratory Diseases.	Intestinal Diseases.	All other causes.	Total.			1916 all causes.
						Males.	Females.	Total.	
January ...	23	145	91	121	163	296	247	543	523
February ...	18	143	79	117	145	268	234	502	480
March ...	14	138	84	93	185	282	232	514	497
April	15	164	79	102	155	269	246	515	494
May	6	148	80	124	180	290	248	538	519
June	23	151	103	94	155	264	262	526	378
July	20	134	121	163	196	323	311	634	489
August ...	25	132	106	99	169	283	248	531	518
September ...	33	128	106	72	176	276	239	515	461
October ...	34	134	111	85	176	276	264	540	429
November ...	23	136	95	75	192	297	224	521	471
December ...	36	145	98	103	199	316	265	581	487
Total ...	270	1,698	1,153	1,248	2,091	3,440	3,020	6,460	5,746

TABLE L.

Table shows the Infantile Mortality by Race and Infantile Death-rates on 1,000 Live Births during the years 1915, 1916 and 1917.

Race or Caste.	Deaths under one year in 1917.	Number of Births registered in 1917.	Infantile Mortality per 1000 of births in the Race (1917).	Infantile Death-rate in 1916.	Infantile Death-rate in 1915.
Europeans ...	11	97	113·4	70·0	71·4
Anglo-Indians ...	52	335	155·4	119·4	197·2
Indian Christians ...	223	1,079	206·7	176·6	174·0
Hindus ...	5,295	18,769	282·1	272·4	295·6
Muhammadans ...	879	3,008	292·2	281·1	294·2
Others ...	...	8	...	...	...
Total ...	6,460	23,296	277·3	265·1	286·1

Vaccination Statement I showing the number of births registered during the calendar year 1917 and the number of vaccination of infants under one year of age.

Division.	Total births excluding still-births.	Still-births.	Deaths under one year.	Number of infants surviving.	Number of infants vaccinated under one year among Madras births.	Percentage of vaccination to births registered.	Remarks.
1	2	3	4	5	6	7	8
1	735 **293**	12 **16**	141 **32**	594 **261**	377 **121**	51·29 **41·30**	
2	1,722 **448**	44 **73**	354 **56**	1,368 **392**	944 **87**	54·82 **19·42**	
3	572 **110**	15 **13**	133 **12**	439 **98**	204 **29**	35·66 **26·36**	
4	506 **61**	13 **4**	126 **4**	380 **57**	184 **23**	36·36 **38·03**	
5	629 **164**	12 **9**	127 **11**	502 **153**	278 **33**	44·20 **20·12**	
6	699 **227**	14 **24**	153 **7**	546 **220**	288 **16**	41·20 **7·05**	
7	1,384 **270**	16 **25**	275 **30**	1,109 **240**	750 **91**	54·20 **33·70**	
8	850 **136**	15 **9**	187 **15**	663 **121**	482 **48**	56·70 **35·29**	
9	691 **90**	14 **11**	174 **8**	517 **82**	392 **40**	56·73 **44·44**	
10	1,085 **102**	33 **2**	238 **21**	847 **81**	754 **45**	69·49 **44·11**	
11	1,711 **285**	50 **12**	375 **36**	1,336 **249**	1,060 **120**	61·95 **42·10**	
12	978 **378**	44 **21**	169 **17**	809 **361**	528 **192**	53·99 **50·79**	
13	655 **645**	19 **128**	122 **41**	533 **604**	406 **168**	61·98 **26·05**	
14	398 **59**	15 **5**	59 **3**	339 **56**	286 **45**	72·11 **76·27**	
15	448 **219**	23 **6**	81 **10**	367 **209**	274 **101**	61·16 **46·12**	
16	1,003 **321**	19 **23**	217 **31**	786 **290**	603 **102**	60·10 **31·78**	
17	1,547 **313**	112 **29**	256 **50**	1,291 **263**	895 **71**	58·50 **22·70**	
18	1,349 **194**	109 **25**	225 **32**	1,124 **162**	798 **62**	59·16 **31·95**	
	1,245 **293**	31 **25**	282 **51**	963 **242**	624 **111**	50·12 **37·88**	
20	903 **166**	22 **18**	179 **33**	724 **133**	476 **84**	52·71 **50·60**	
Total.	19,110 **4,774**	632 **478**	3,873 **500**	15,237 **4,274**	9,604 **1,589**	50·26 **33·28**	

N. B.—**The antique figures denote Hospital births.**

Vaccination Statement II showing the number of births registered in 1916 and the number of infants vaccinated under one year of age.

Year.	Total number of births excluding still-births.	Number of children in column 2, who died before attaining the age of one year, without being vaccinated.	Number of children in column 2, who left the city before attaining the age of one year, without being vaccinated.	Number of children in column 2, who were available for vaccination (col. 2 *minus* 3 and 4).	Number of children in column 5, who were vaccinated before they attained the age of one year.	Percentage of column 6 to column 5.	Number of children in column 5, whose vaccination was postponed beyond one year of age for medical reasons.
1	2	3	4	5	6	7	8
1915	14,680	3,378	2,513	8,789	7,460	84·87	355
	3,269	**428**	**789**	**2,052**	**971**	**47·32**	**24**
1916	15,333	3,375	2,627	9,331	8,250	88·41	129
	3,795	**440**	**960**	**2,395**	**1,217**	**50·82**	**25**
1917	18,730	3,834	3,070	11,826	10,429	88·19	118
	831	**532**	**1,264**	**3,035**	**1,594**	**52·52**	**26**

N.B.—The antique figures denote Hospital births.

Vaccination Statement III showing particulars of Vaccination during the year ending 31st December 1917.

Old division.	Wards.	Corresponding present division.	Population.	Number of depots in each division.	Number of Vaccinators in each division.	Total number of persons vaccinated. Males.	Total number of persons vaccinated. Females.	Total number of persons vaccinated. Total.	Average number of persons vaccinated by each Vaccinator.	Primary Vaccination. Total. Males.	Primary Vaccination. Total. Females.	Primary Vaccination. Total. Total.	Primary Vaccination. Successful. Under one year.	Primary Vaccination. Successful. One year and under six.	Primary Vaccination. Successful. Six years and above.	Primary Vaccination. Successful. Total.	Primary Vaccination. Unknown.	Revaccination. Total.	Revaccination. Successful.	Revaccination. Unknown.	Percentage of successful cases in which the results were known. Primary.	Percentage of successful cases in which the results were known. Re-vaccination.	Persons successfully vaccinated per 1,000 of population.	Average annual number of persons successfully vaccinated during the previous five years. Number.	Average annual number of persons successfully vaccinated during the previous five years. Ratio *per* 1,000 of population.	Average annual number of deaths from small-pox during previous five years. Number.	Average annual number of deaths from small-pox during previous five years. Ratio *per* 1,000 of population.	Average cost of each successful vaccination.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1	East Ward ...	1	20,318	1	1	762	705	1,467		567	538	1,105	903	149	6	1,058	34	362	130	60	98·79	43·46	58·47	865	42 57	5	0·2	(Annas eight and pies six only.)
	Centre „ ...	2	40,635	1	1	1,537	1,279	2,816		798	964	1,762	1,205	128	2	1,335	402	1,054	191	572	98·16	39·63	37 55	1,882	46·31	10	0·2	
	West „ ...	3	15,120	1		720	318	1,038		321	242	563	453	68	1	522	30	475	150	195	97·94	53·57	41·44	722	47·75	1	0·06	
2	East Ward ...	4	14,564	1	1	398	328	726		251	229	480	358	76	2	436	33	246	62	78	97·54	36·90	34·18	808	55·47	4	0·3	
	Centre „ ...	5	19,179	1		700	614	1,314		394	450	844	657	113	3	773	58	470	119	175	98 35	40 34	46·50	898	46·82	7	0·4	
	West „ ...	6	22,473	...	1	857	694	1,551		397	387	784	672	84	1	757	14	767	273	211	98·31	49·10	45 83	1,098	48 86	6	0·2	
3	North Ward ...	7	37,065	1		1,825	1,220	3,045		881	825	1,706	1,571	98	3	1,672	28	1,339	520	357	99 64	52·95	59 14	1,580	42·63	9	0·2	
	Centre „ ...	8	28,585	...	1	643	619	1,262		528	586	1,114	1,001	73	5	1,079	22	148	53	26	98·81	43·44	39 60	1,010	35·33	10	0·3	
	South „ ...	9	20,937	1		552	602	1,154		452	515	967	818	116	2	936	10	187	66	18	97·81	39·09	47 86	649	30·99	4	0·2	
4	„ „ ...	10	24,979	1	1	2,958	1,012	3,970	3.677	728	757	1,485	1,252	159	10	1,421	19	2,485	1,271	465	96 93	62·92	107 77	1,808	72·38	2	0·08	
5	North Ward ...	11	41,523	1		1,251	1,268	2,519		981	1,013	1,994	1,759	138	15	1,912	9	525	256	82	96·32	57·79	52·21	2,192	52 81	6	0·1	
	Centre „ ...	12	29,776	1	1	2,474	1,470	3,944		705	657	1,362	1,166	160	...	1,326	11	2,582	880	784	98·15	48·94	74·09	1,710	57·43	7	0·2	
	South „ ...	13	23,717	...	...	1,125	595	1,720		563	466	1,029	944	62	...	1,006	10	691	414	129	98·72	73·67	59·87	1,537	64·80	9	0 4	
6	North Ward ...	14	11,751	...	1	485	372	857		418	344	762	678	62	...	740	6	95	25	44	98·02	49·02	65·10	858	74·29	1	0·08	
	South „ ...	15	15,180	1		534	399	933		490	384	874	769	94	...	863	...	59	13	40	98·77	68·42	57·77	1,163	76·61	4	0 3	
7	North Ward ...	16	26,752	1	1	1,141	847	1,988		738	676	1,414	1,312	88	...	1,400	5	574	283	107	99·36	60·60	62 91	2,007	75 02	7	0·3	
	Centre „ ...	17	38,643	1	1	1,167	904	2,071		900	785	1,685	1,401	196	...	1,597	33	383	132	114	96·67	49·07	44·74	1,715	44·38	18	0 5	
	South „ ...	18	32,851	...		972	835	1,807		751	687	1,438	1,191	175	2	1,368	34	372	151	91	97·44	53·80	46·24	1,695	51·59	19	0·6	
8	East Ward ...	19	34,358	1	1	846	691	1,537		656	612	1,268	889	325	...	1,214	29	291	192	39	97·98	76·19	40·89	1,370	39·87	20	0·6	
	West „ ...	20	20 254	...		593	463	1,056		446	468	914	695	193	...	888	14	120	54	32	98 67	61·36	46·56	1,041	51·39	5	0·2	
	Total ...		518,660	14	10	21,540	15,235	36,775	3677	11,965	11,585	23,550	19,694	2,557	52	22,303	801	13,225	5,235	3619	98·39	54·50	53 09	26,608	51·30	154	0·3	

TABLE

Random Sampling.

Division.	Place.	No. examined for enlarged spleen.	No. with enlarged spleen.	Per cent.	Per cent. 1916.	No. of blood smears taken.	No. infected.	Per cent.	Per cent. 1916.
1	Kasi Modu Kuppam ...	34	7	20·5	14·7	34	2	5·9	11·7
10	Chakilipalayam ...	33	3	9·09	...	33	2	6·06	...
11	Semmen Paracheri ...	58	4	6·9	...	58	3	5·1	...
11	Cooum Paracheri ...	34	2	5·9	...	34	2	5·9	...
11	Otary Obrapalayam ...	38	2	5·3	7·14	38	1	2·6	7·14
11	Ponnan Paracheri ...	32	2	6·2	13·3	32	1	3·1	13·3
11	Vettiyan Paracheri ...	23	2	8·6	14·2	23	2	8·6	4·7
11	Strahams Road Paracheri ...	34	2	5·8	...	34	1	2·9	...
11	Madavakam Tank Paracheri.	31	3	9·6	...	31	2	6·4	...
12	Swami Naicken Paracheri ...	36	2	5·5	...	36	1	2·8	...
13	Perumal Reddi Street Paracheri ...	34	1	2·9	...	34	2	5·8	...
19	Teynampet School ...	52	4	7·6	...	52	2	3·8	...
	Total ...	439	34	7·7	...	439	21	4·7	...

TABLE

Dispensary Statistics.

Dispensary.	Total Number of slides examined.	Number infected.	Per cent.	Per cent. in 1916.
1st Dispensary, Dhobipet	137	30	21·8	22·6
2nd do Washermanpet ...	17	4	23·5	27·9
3rd do Royapuram ...	167	42	25·1	27·9
4th do Purasawakam ...	445	113	25·3	27·8
Total ...	766	189	24·6	27·01

TABLE.

Reclamation work done during the year.

Serial No.	Division.	Name of the owner.	Nature of place.
1	2	Devasigamoni Chetty	Pit.
2	2	Kanni Ammal and Natesa Gramany ...	Pit.
3	2	Balasundaram Chetty	Tank.
4	2	Ramalingam Pillai	Pit.
5	3	Natesa Mudaliar	Pit.
6	3	M & S. M. Railway	Tank.
7	3	Do.	Tank.
8	3	Veeriah Chetty	Pit.
9	3	M & S. M. Railway	Pits.
10	3	Do.	Pits.
11	3	Do.	Burrow pits.
12	3	Veeriah Chetty	Tank.
13	3	Messrs. Massey & Co. ...	Low-land.
14	10	Sayed Asanalli Sahib	Pits.
15	10	Abdul Hamid Khan	Well.
16	10	Do.	Well.
17	11	Andalamah	Tank.
18	11	Varadachari	Pit.
19	11	Jaith Mill Compound	Tank.
20	11	Lazarus	Pit.
21	11	Gangatheswarar temple	Pits.
22	11	Government	Tank.
23	11	Military Authorities	Pits.
24	11	Chensiah Naidu	Tank.
25	11	Messrs. Doss Bros.	Pits.
26	11	Do.	Low-land.
27	11	Mr. S. N. Bharati	do.
28	11	"Nadar's Garden"	Tank.
29	11	R. Subbu Lal Lala	Tank.
30	11	Mr. Sundara Reddy	Low-land.
31	11	M. Bhashiam Naidu	Pit.
32	11	Jeevarathnammal	Low-ground.
33	11	P. N. Narayanaswami Reddy	Do
34	12	G. Venkatasubba Aiyar	Pit.
35	12	Crystal Ice Factory	Tank.
36	12	F. T. Newland	Low-ground.
37	12	Corporation of Madras	Do.
38	12	Sundararaja Mudaliar	Tank.
39	13	W. A. Beardsell	Low-land.
40	14	C. H. Straker	Do.
41	14	Parthasarathy Naidu and Venkatapathy Maistry	Tank.
42	18	Corporation of Madras	Tank.
43	19	Karnam Kalam	Pits.
44	19	Kuppuswami Gramany	Low-land.
45	19	Karnam Kalam	Pits.
46	19	Rao Bahadur Ramaswami Iyengar ...	Well.

TABLE.

Statement showing the details expenditure under various headings for the year 1917.

Months.	Establishment. Investigation, Prevention, Treatment and Lorry Staff.	Establishment. Anti-Malarial Drainage works.	Amount spent for filling, cost of petrol, repairing charges to lorries for Anti-Malarial Reclamation works.	Oiling, cleaning, Fishermen, bush-cutting and purchase of liquid fuel.	Stationery, Printing and Laboratory equipments.	Contingencies, rent of buildings, etc.	Law charges.	Total.
1	2	3	4	5	6	7	8	9
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
January	1,864 7 1	2,918 0 5	1,049 10 0	809 13 10	4 7 7	290 9 4	0 10 6	6,937 10 9
February	1,771 14 3	501 15 6	85 12 0	803 3 7	Nil.	1,785 0 7	Nil.	4,947 13 11
March	2,542 3 5	1,427 9 3	216 2 2	889 15 5	71 2 6	3,134 13 2	8 9 0	8,290 6 11
April	1,132 2 10	671 7 6	254 2 0	656 1 10	Nil.	72 0 0	81 14 0	2,867 12 2
May	1,132 5 4	442 6 8	436 1 6	605 9 10	17 9 10	36 0 0	40 0 0	2,710 1 2
June	1,120 15 0	581 5 1	336 14 0	775 0 9	19 8 0	98 14 0	Nil.	2,932 8 10
July	1,236 7 0	2,275 1 10	109 0 0	610 7 0	Nil.	2,163 8 1	Nil.	6,394 7 11
August	1,119 6 4	810 4 3	1,006 2 0	702 15 1	128 7 0	443 9 1	Nil.	4,210 11 9
September	1,134 2 1	913 15 6	715 1 2	621 1 6	13 3 5	163 9 10	7 2 0	3,568 3 6
October	1,144 12 3	827 4 0	1,314 6 8	713 15 4	Nil.	221 7 0	22 8 0	4,244 5 3
November	1,033 0 0	817 1 11	870 7 4	738 0 2	0 8 0	311 3 4	22 3 6	3,792 8 3
December	1,185 10 1	1,540 11 11	943 9 0	842 2 2	Nil.	40 6 0	Nil.	4,552 7 2
Total ...	16,417 5 8	13,727 3 10	7,337 3 10	8,768 6 6	254 14 4	8,761 0 5	182 15 0	55,449 1 7

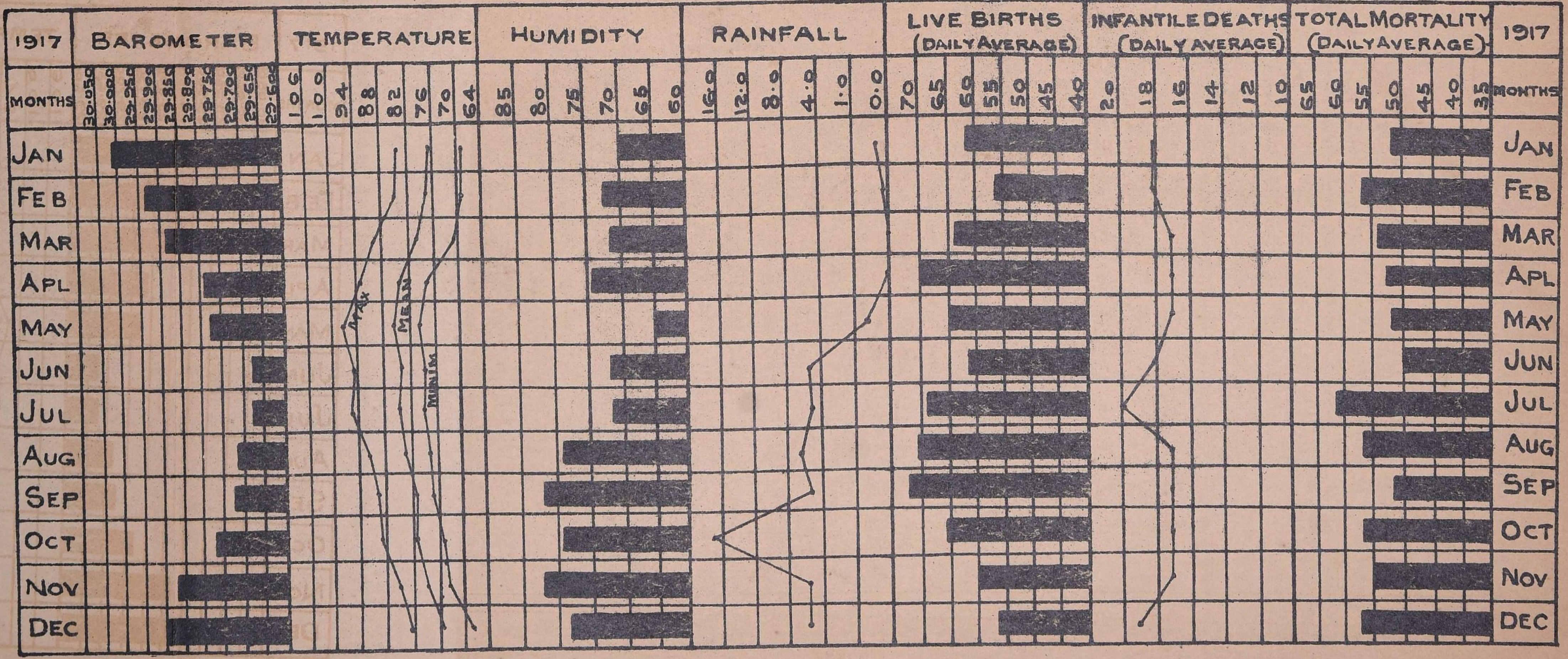
K. RAGHAVENDRA RAO, B.A., M.B. & C.M.,
Special Malaria Officer, C.M.

Thompson & Co., Printers, Madras.

DIAGRAM

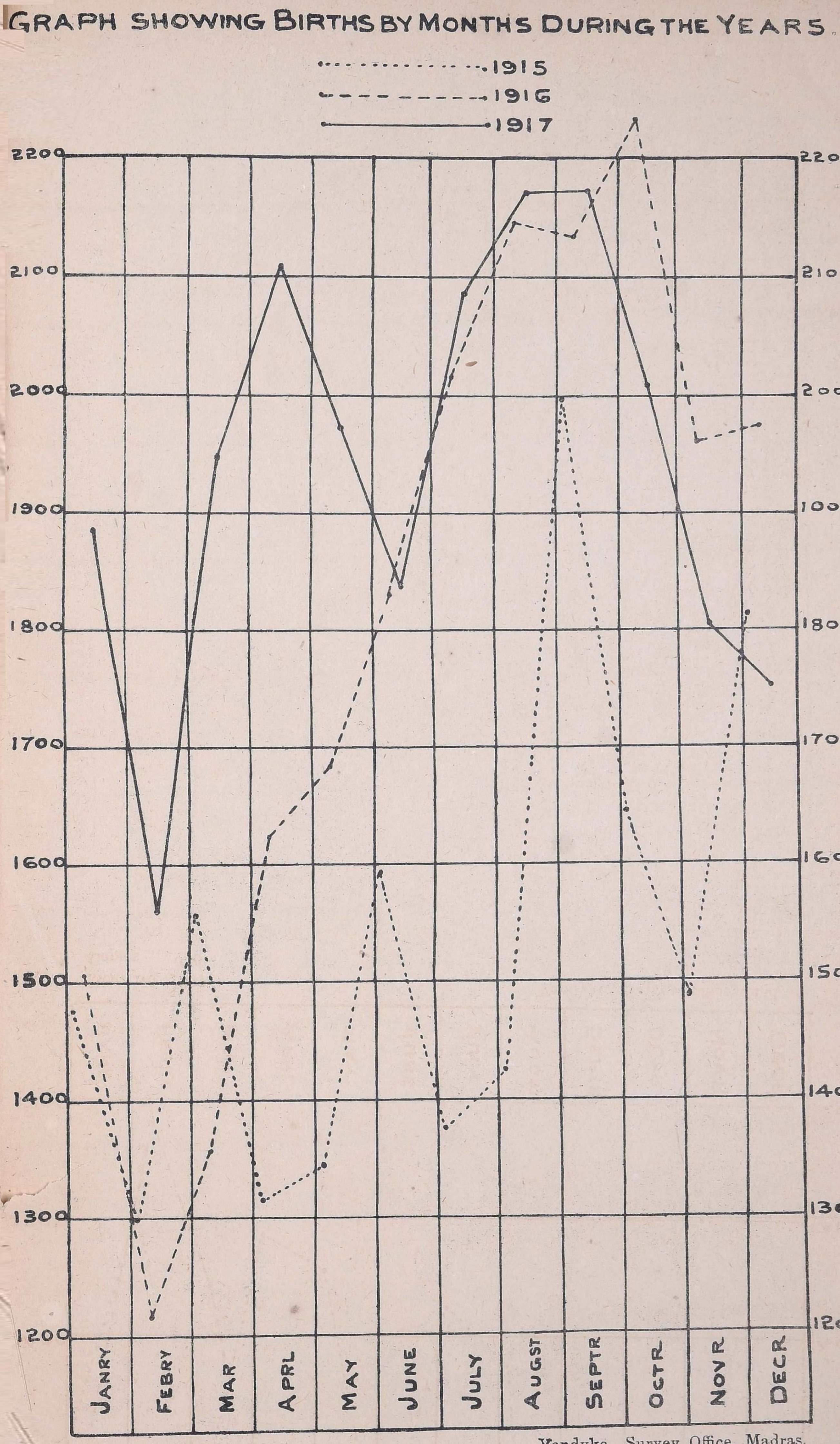
OF

DAILY MEAN BIRTHS DEATHS AND CLIMATIC CONDITIONS IN MADRAS CITY DURING THE SEVERAL MONTHS OF 1917.



Reg. No. 2882
Copies – 350

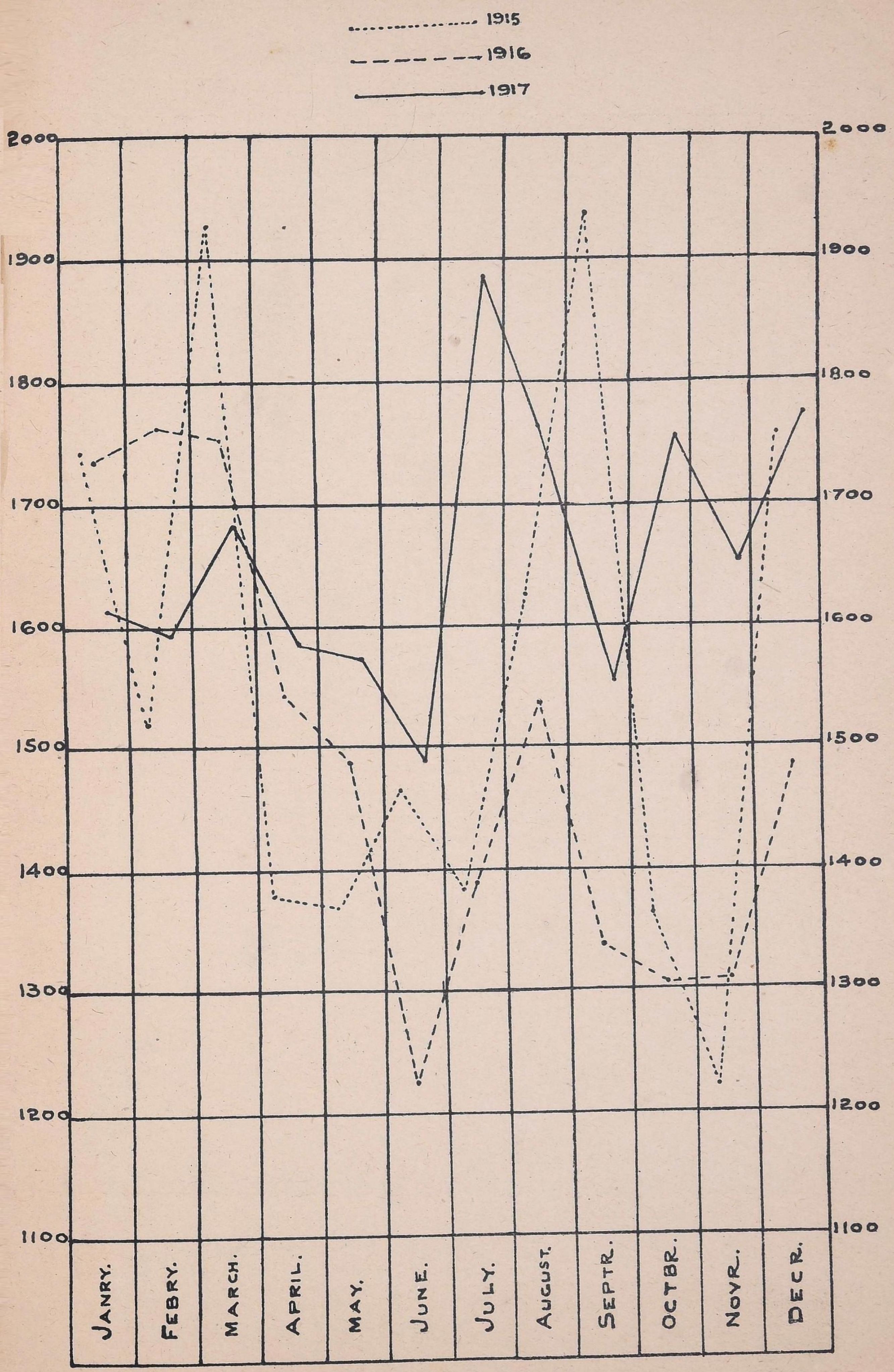
Helio-Zinco., Survey Office, Madras.
1918



Reg. No. 2837
Copies 350

Vandyke., Survey Office, Madras.
1918

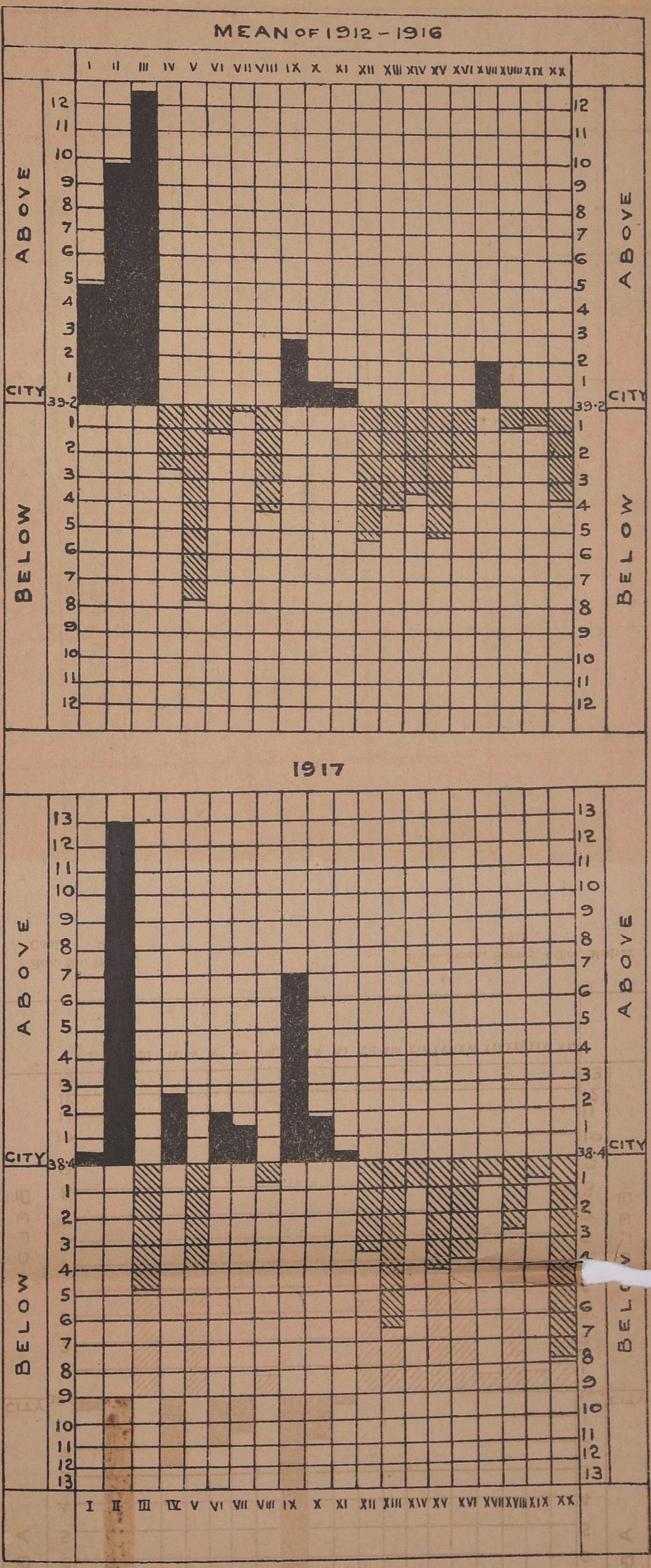
GRAPH SHOWING DEATHS BY MONTHS DURING THE YEARS.



Reg. No. 2867
Copies 350

Vandyke., Survey Office, Madras.
1918

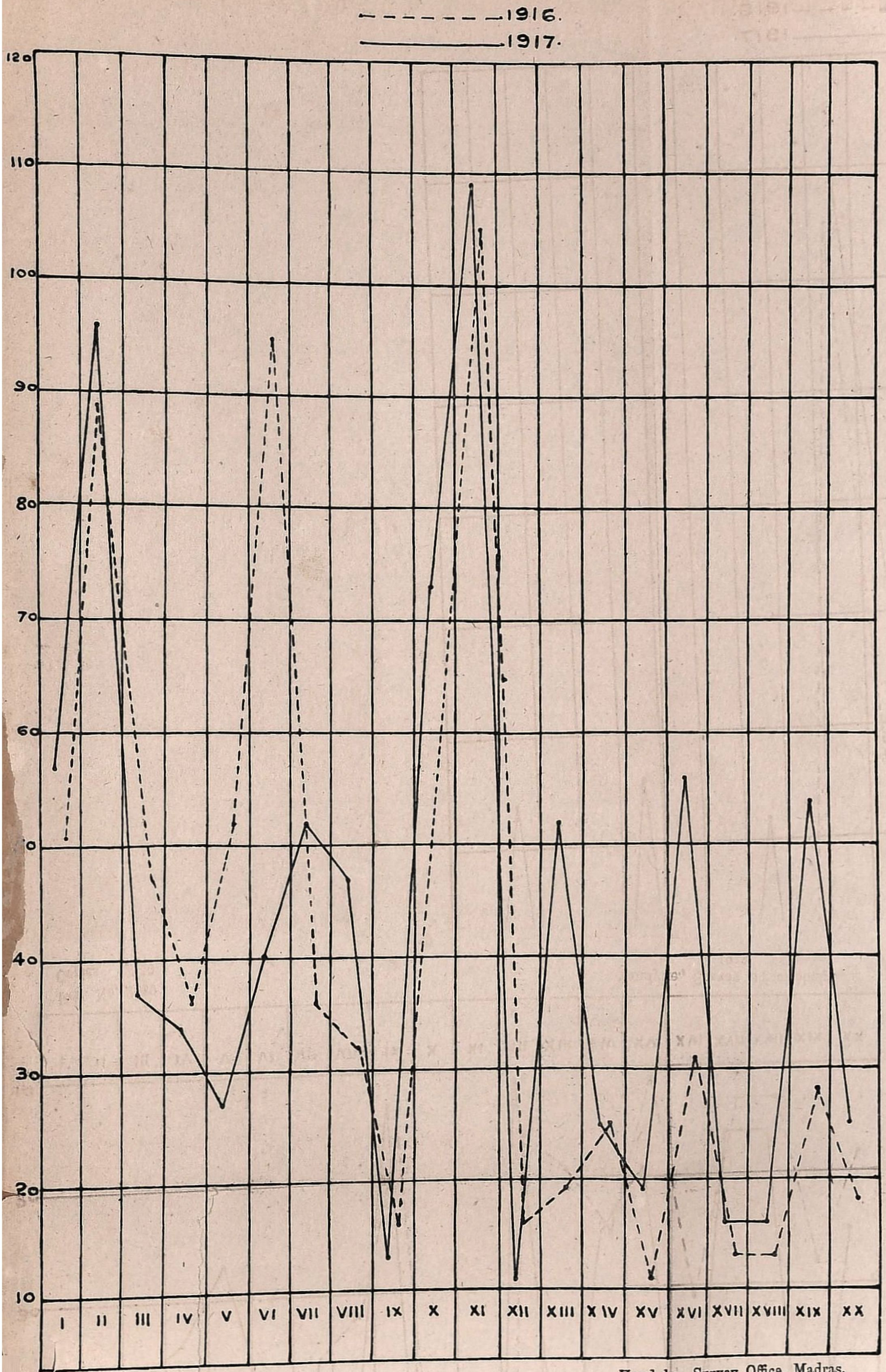
COMPARISON OF TOTAL DEATH RATES OF THE CITY AND COMPONENT DIVISIONS



Reg. No. 2887
Copies 350

Helio-Zinco., Survey, Office, Madras.
1918

GRAPH SHOWING DEATHS FROM MALARIA BY DIVISIONS.

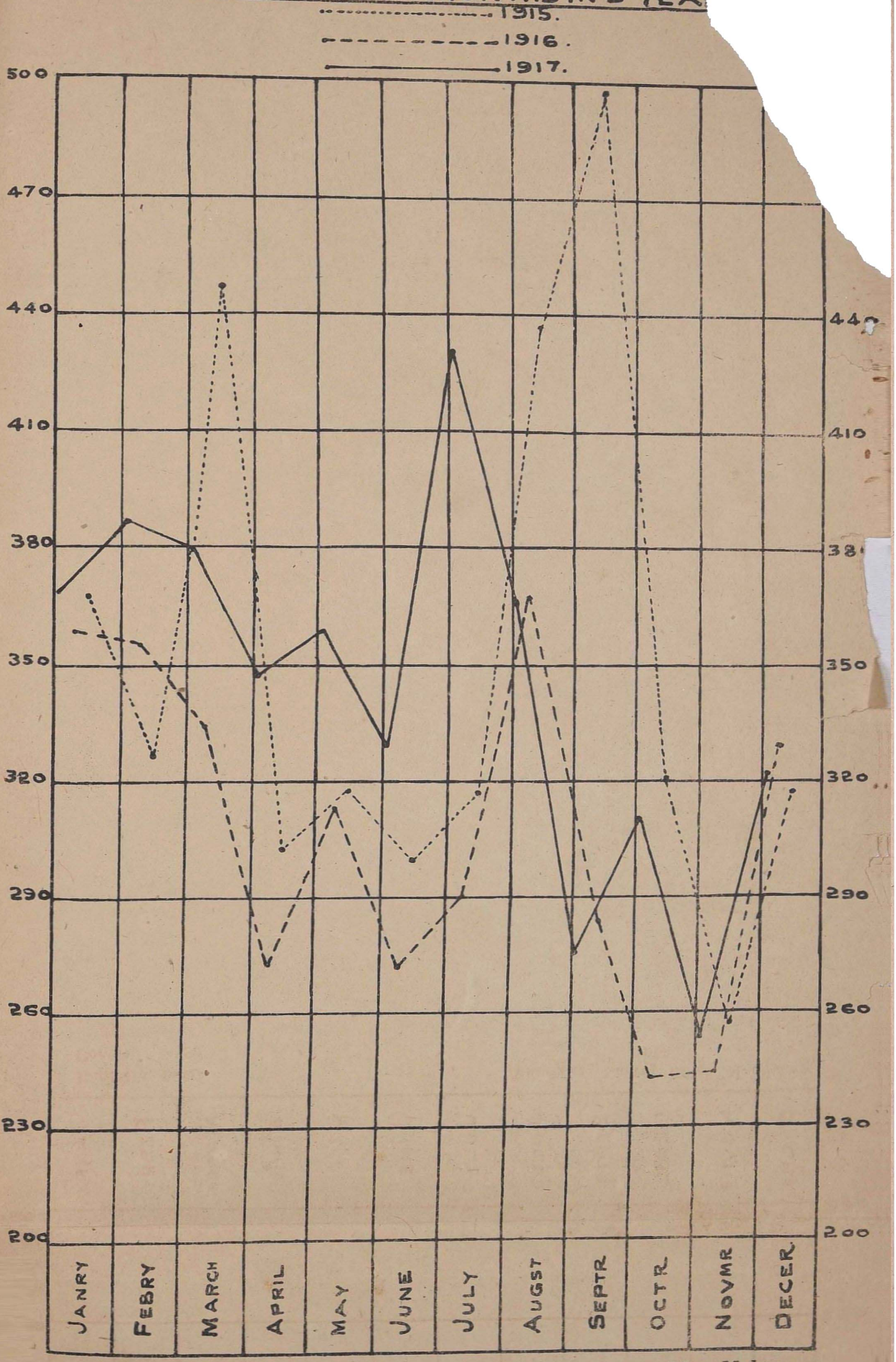


Reg. No. 2839
Copies 350

Vandyke., Survey Office, Madras.
1918

GRAPH SHOWING THE TOTAL DEATHS FROM DYS[ENTERY AND]

DIARRHOEA BY MONTHS IN 3 YEA[RS]



Reg. No. 2840
Copies 350

Vandyke, Survey Office, Madras.
1918

		No.
5.	M.R.Ry. T. A. Ramachandra Rao Avargal	1
6.	R. S. F. Simpson, Esq.	1
7.	A. J. Leech, Esq.	1
8.	Khan Bahadur M. A. Kuddus Badsha Sahib ...	1
9.	Khan Bahadur Hajee Muhammad Abdul Azeez Badsha Sahib	1
10.	Mrs. Todhunter	1
11.	M.R.Ry., N. Radhakrishna Iyer Avargal of Calcutta ...	1
12.	M.R.Ry. Rao Bahadur C. Cunnan Chetti Garu ...	10
13.	The Hon'ble Dewan Bahadur Justice T. Sadasiva Ayyar.	1
14.	M.R.Ry. G. A. Natesan Avargal	1
15.	Salay Muhammad Hajee Ibrahim Sahib	1
16.	M.R.Ry. O. A. O. K. Lakshmana Chettiar Avargal ...	1
17.	The Hon'ble Sir Alexander Cardew, K.C.S.I., C.S.I. ...	1
18.	M.R.Ry. Rao Bahadur G. Narayanaswami Chetti Garu.	1
		27

The Governors desire to express their appreciation of the generosity of the following gentlemen for the material aid given to the hospital during the year .—

(1) The Maharajah of Bobbili, G.C.I.E., G.B.E., for his generous donation of Rs. 3,000 for the endowment of a permanent bed.

(2) M.R.Ry. Dewan Bahadur C. Ramanujam Chetti Garu for his generous contribution of Rs. 3,000 towards meeting the deficit for 1916 and 1917.

(3) M.R.Ry. N. Radhakrishna Iyer of Calcutta, who has again come forward with another donation of Rs. 1,000 towards the General Funds and the support of a temporary bed.

(4) M.R.Ry. Rao Bahadur C. Cunnan Chetti Garu for so generously supporting ten temporary beds.

I enclose herewith a copy of the report which contains all the statistical information needed.

On behalf of the Governors of the institution I desire to thank the Corporation for having increased the annual contribution from Rs. 1,500 to Rs. 2,000.

I have the honour to be,
Sir,
Your most obedient servant,

G. A. NATESAN,
Honorary Secretary to the Governors of the Victoria Caste and Gosha hospital.

Statement showing the diseases treated in the undermentioned hospitals and dispensaries during the year 1918-19.

	Names of Diseases.	Hospitals and Dispensaries.											
		Washermanpet Dispensary.	Buliah Naidu Dispensary.	Chintadripet Dispensary.	St. Thomas' Convent Dispensary.	San Thome Dispensary.	Victoria Hospital for Caste and Gosha Women.	Raja Sir Ramaswamy Mudaliar Maternity Hospital.	Sri Kanyaka Parameswari Devastanam Ayurvedic Dispensary.	Venkataramana Dispensary.	Royapettah Hospital.	Kalyani Hospital.	Total.
INFECTIVE DISEASES.	Cholera	3	1	...	...	...	...	3	...	...	...	...	7
	Dysentery	647	1,554	847	322	462	270	112	711	919	1,467	138	7,449
	Enteric fever	13	...	8	3	...	6	...	...	...	38	...	68
	Gonorrhœa	127	106	48	...	21	170	2	73	175	694	17	1,433
	Kala-Azar	3	...	1	...	...	9	2	...	...	125	1	141
	Leprosy	22	3	5	40	18	4	...	...	...	9	1	102
	Malaria	2,166	961	1,435	108	219	822	450	6,126	201	1,890	83	14,461
	Plague	...	...	...	...	...	...	...	...	...	6	...	6
	Pneumonia	22	67	12	33	6	35	1	...	...	86	18	280
	Pyrexia of uncertain origin ...	643	5,273	1,892	5	270	300	22	...	2,418	2,943	424	14,190
	Rheumatic fever and Rheumatism ...	607	938	977	720	351	647	27	570	24	1,465	190	6,516
	Small-pox	2	...	...	14	...	...	...	...	...	1	...	17
	Syphilis (primary and secondary) ...	64	159	147	120	76	65	1	32	...	907	37	1,608
	Tubercle of the lungs	23	27	43	190	4	86	46	146	21	109	22	717
	Other Tubercular diseases ...	74	28	2	150	18	59	...	...	...	114	2	447
	All other infective diseases ...	1,497	...	1,004	316	670	2	123	2,959	17	2,423	84	9,095
OTHER GENERAL DISEASES.	Anæmia	50	62	106	416	172	310	68	296	350	1,116	43	2,989
	Diabetes	10	20	27	3	6	9	...	40	...	59	7	181
	Scurvy	...	...	...	...	...	...	...	...	...	1	...	1
	New growths { Non-Malignant ...	13	15	23	242	...	17	...	...	28	32	...	370
	New growths { Malignant ...	...	...	7	...	...	27	...	...	...	43	...	77
	All other general diseases ...	2,436	5,794	4,000	386	88	76	2	2,271	6,247	6,613	615	28,528
DISEASES.	Diseases of the nervous system ...	723	789	431	29	246	158	16	855	1,732	1,160	79	6,218
	Diseases of the eye	426	361	336	336	109	84	16	346	746	668	104	3,532
	Diseases of the ear	2,443	3,009	2,588	646	676	633	7	3,399	1,074	3,233	309	18,017
	Diseases of the nose	21	227	23	16	33	10	13	25	205	510	15	1,098
	Diseases of the circulatory system ...	12	41	50	156	14	117	95	...	511	316	20	1,332
	All diseases of the respiratory system except Pneumonia and Tubercle of the lungs	[illegible],318	5,203	3,323	172	1,141	1,178	301	2,607	1,568	2,507	484	20,802
	Dyspepsia	17	...	658	244	579	670	79	1,585	601	1,480	94	6,007
	Diarrhœa	552	...	769	458	447	345	140	393	91	1,646	162	5,003

331½

Systemic	Abscess of the liver ...	1	...	8	...	...	...	...	...	...	16	...	25
	All other diseases of the liver ...	333	...	42	24	36	71	13	...	...	403	13	935
	Appendicitis	3	...	2	...	...	3	...	...	...	5	5	18
	All other diseases of the digestive system	3,009	9,361	7,292	147	2,392	2,471	151	4,147	1,055	5,528	192	35,745
	Inflammation and suppuration of the lymph glands	399	132	229	211	43	70	9	...	15	487	32	1,627
	Goitre	...	...	...	...	...	...	...	...	...	6	1	7
	Brights disease	11	25	12	...	19	158	1	...	...	200	35	461
	All diseases of the urinary system ...	64	88	66	172	27	199	129	62	201	1,091	43	2,142
	Hydrocele	20	72	28	...	46	...	...	45	108	345	...	664
	Other diseases of the generative system	292	459	239	136	118	3,397	407	128	150	3,394	679	9,399
	Diseases of the organs of locomotion.	152	65	64	165	106	18	...	...	142	490	15	1,217
	Diseases of the connective tissue ...	1,779	1,241	807	178	273	106	15	...	151	3,080	16	7,646
	Ulcers	2,201	3,210	1,327	316	816	364	19	3,257	3,566	2,468	177	17,721
	Other diseases of the skin ...	4,961	3,630	1,147	222	1,090	1,674	41	7,675	1,109	4,431	415	26,395
	All other local diseases	...	636	49	694	...	1,305	15	...	689	1	408	3,797
General and Local.	Injuries (General and Local) ...	1,865	1,857	2,065	882	372	210	7	302	317	7,010	146	15,033
	Poisons: By Opium	...	...	...	...	...	1	...	...	...	...	...	1
	Poisons: By other poisons ...	...	346	8	...	170	5	...	...	26	5	...	560
	Labors: Normal	159	...	10	...	...	317	944	...	...	...	138	1,568
	Labors: Abnormal	2	89	...	...	...	362	289	...	...	...	36	778
	Total...	30,185	45,849	32,157	8,272	11,134	16,840	3,566	38,050	24,457	60,621	5,300	,276,431
	Operations	1,319	1,639	1,452	240	579	3,953	90	...	88	3,633	344	13,337

Note.—The statistics furnished by the Victoria Caste and Gosha Hospital are in respect of the calendar year 1918.

Statement showing the attendance of patients treated, the income and the expenditure of the undermentioned hospitals and dispensaries, during the year 1918-19.

Name of Hospital.	Total number treated.		Average daily attendance.		Percentage of deaths to total in-door treated.	Income.									Expenditure.																				
	In-door.	Out-door.	In-door.	Out-door.		From subscription, &c.			From Government.			From Municipality.			Establishment.			Diets.			European Medicines.			Bazaar Medicines.			Miscellaneous.			Repairs to Buildings, etc.			Total.		
						Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Royapettah Hospital ...	3,370	57,251	76·41	129·45	2·3	346	8	0	...	...	...	54,660	0	4	12,430	7	5	12,041	6	6	9,177	5	8	3,093	6	6	17,958	4	8	305	9	7	55,006	8	4
Washermanpet Dispensary...	...	30,185	...	212·82	...	...	...	...	...	...	...	6,104	9	8	2,960	14	7	...	...	...	1,680	2	0	9	5	6	1,384	1	7	70	2	0	6,104	9	8
Bauliah Naidu Dispensary...	...	45,849	...	252·86	...	...	...	...	...	...	...	8,066	14	0	4,588	13	1	...	...	...	1,980	6	0	2	3	6	1,202	12	9	292	10	8	8,066	14	0
St. Thomé Dispensary ...	...	11,134	64·28	...	...	512	14	8	...	...	...	1,100	0	0	681	12	0	...	...	...	419	13	0	24	0	3	147	8	5	171	5	6	1,444	7	2
St. Thomas' Convent Dispensary	652	7,620	2·28	74·98	·3	...	...	...	...	...		240	0	0	1,596	0	0	697	0	0	586	0	0	77	0	0	150	0	0	177	0	0	3,283	0	0
Victoria Hospital for Caste and Gosha Women.	2,564	14,276	93·93	114·91	...	38,346	9	9	6,440	0	0	1,500	0	0	11,398	9	6	8,032	14	4	7,898	9	5	...	...	...	9,277	4	8	978	5	11	37,585	11	10
Venkataramana Dispensary.	...	24,457	...	168	...	8,814	14	5	...	...	...	...	...	...	3,805	13	6	...	...	..	107	0	3	3,127	14	4	1,237	2	1	259	0	6	8,536	14	8
Chintadripet Dispensary ...	...	32,157	...	221·88	...	...	...	...	...	...	...	5,618	7	8	2,853	0	1	...	...	...	1,775	11	0	3	5	0	841	15	10	144	7	9	5,618	7	8
Raja Sir Ramaswamy Mudaliar Maternity Hospital.	1,721	1,845	34·26	9·56	1·85	...	...	...	300	0	0	23,222	14	9	6,539	6	6	4,935	10	11	1,952	13	0	693	6	10	5,498	7	4	3,903	2	2	23,522	14	9
Kalyani Hospital ...	797	4,503	17·06	24·48	...	12,512	1	1	...	...	...	600	0	0	8,178	5	2	812	9	11	1,074	6	0	...	...	...	843	3	11	2,327	7	9	13,236	0	9
Sri Kanyaka Parameswari Devasthanam Ayurvedic Dispensary	...	38,050	...	218·77	...	3,451	3	7	...	...	...	500	0	0	2,202	10	7	...	...	...	...	...	...	1,382	14	0	213	3	9	152	7	3	3,951	3	7

***Note*.—The statistics furnished by the Victoria Caste and Gosha Hospital are in respect of the calendar year 1918.**

Thompson & Co., Printers Madras.

Government of Madras

LOCAL & MUNICIPAL DEPARTMENT (MUNICIPAL).

G.O. etc. Nos. 6-6-A M., 3rd January 1920

Corporation of Madras

Administration report 1918-19, reviewed.

Read—the following papers:—

I

Letter—from the President of the Corporation of Madras.
Dated—the 1st September 1919.
No.—328.

II

Letter—from the President of the Corporation of Madras.
Dated—the 18th December 1919.
No.—672.

Order—No. 6 M., dated 3rd January 1920.

Recorded with the following remarks:—

(1) *Finance.*—The total receipts including loans to the amount of 9 lakhs, aggregated 45·68 lakhs; and the total charges 44·72 lakhs. The accounts closed with a balance of 10·89 lakhs, 4·05 of which belonged to the water and drainage tax fund. Excluding the amount to the credit of the Sinking Funds, the Corporation's debt on 31st March 1919, amounted to 81·20 lakhs, which is rather more than three times the annual income from taxation. This income increased by about 5 per cent during the year, the incidence per head rising to Rs. 4-12-11.

(2) *Roads and buildings.*—The expenditure on roads was 3·86 lakhs; but the work was hampered both by a change in the system of repair, and by the shortage of labour and other difficulties arising from economic causes; and the results were admittedly not very satisfactory. Some four miles were metalled for the first time; and 41 miles reformed—less than ten miles are tarred. The Government hope that it will be possible to effect more improvement this year. No new buildings of special importance were constructed.

(3) *Drainage.*—Expenditure on the special drainage works amounted to 5·10 lakhs, bringing the aggregate up to 45·17 lakhs, out of an estimate of 68·62 lakhs according to the restricted programme which was approved during the war. The principal works were the laying of sewers in Triplicane, and of the sub-gravitation main along the China Bazaar road. But only about a quarter of the complete original scheme has yet been carried out; and as the President has remarked, it is of vital importance to the health of the City that the Corporation should recognize the necessity of deciding at once what the future drainage programme is to be and how it is to be financed. The Government referred the question to the Corporation separately in June but have not yet received a reply, and the subject does not seem to have attracted much attention in the debate on the present report.

(4) *Water-supply.*—The restricted programme for the water-works was completed in October 1918, with a slight saving on the total estimate of 55·92 lakhs. Consumption continued to be greater than the supply for which the works were designed and the need of additional filters and other improvements is emphasized by the President and many of the commissioners. Action has been delayed by the controversy between the Corporation Special Engineer and the Committee appointed in 1918 at the Corporation's request to advise it; but the Government trust that something will be settled this year.

(5) *Education.*—The approved programme of construction contemplated 32 elementary schools by the end of the year but only 22 were completed. Fees were abolished in all the Corporation schools. They supply only about one-tenth of the total elementary education in the City and have hitherto catered mainly for the more backward classes. One of the results of abolishing fees is said to have been to attract more well-to-do children to them.

(6) *Public health.*—The recorded death-rate rose to 60·3 per mille in 1918—the highest record since 1878. The influenza epidemic was no doubt the chief cause of the great increase; but there was also an unduly large number of deaths from cholera, and tuberculosis accounted for 1,488. Twenty temporary dispensaries were opened to provide treatment for influenza. There was an outburst of plague in December, but it was dealt with energetically and successfully and there were only 31 deaths. Infantile mortality rose to 355 per mille of births registered. Such figures, though no doubt largely due to exceptional economic conditions are deplorable for a presidency city and emphasize the importance of grappling with the defects in the water-supply and drainage schemes, while, as the President has observed, it should be the Corporation's immediate care to face the housing problem. The child welfare scheme is still in its infancy, but seems to have begun well and to have already become popular; and the Government are glad to learn that its operations are to be systematized and extended. The Corporation has postponed the introduction of the Adulteration Act until a chemical and bacteriological laboratory has been established; it is now under construction. The Government hope that no time will be lost in settling the plans for the infectious diseases hospital, which the council has agreed to maintain instead of the Royapetta hospital, which has been transferred to Government management.

(7) *Miscellaneous.*—(*a*) The Government have since authorized the laying of the tramway along the Bodyguard and Mount roads and the widening of the Government House and Penitentiary bridges. The total cost is estimated at 5·71 lakhs—the Corporation and Tramway Company will each contribute 1·50 and the Government the remainder.

(*b*) The Government have asked the Corporation to undertake the cleaning of the foreshore at Government cost.

(*c*) The new Madras City Municipal Act, 1919, was not brought into force till 1st October 1919, and is not yet in full operation.

(True extract)

F. J. Richards,
Acting Secretary to Government.

To the President, Corporation of Madras.
,, Collector of Madras.
,, Accountant-General.
,, Director of Public Instruction.
,, Surgeon-General.
,, Sanitary Commissioner.
,, Sanitary Engineer.
,, Principal of the Sydenham College of Commerce and Economics, Bombay.
,, Sanitary Commissioner with the Government of India.
,, Chief Secretary, Mysore Government, Bangalore, with C.L.
Editors' Table.

Endorsement—No. 6-A M., dated 3rd January 1920.

Copy to the Government of India, Department of Education.

F. J. Richards,
Acting Secretary to Government.